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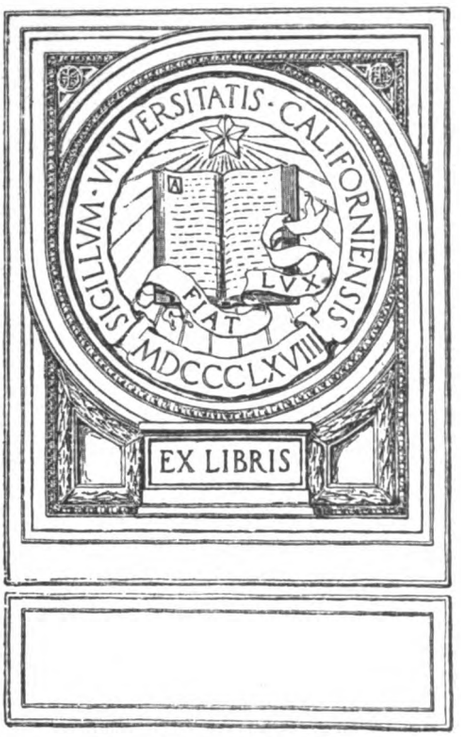
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THE

ARCHITECT

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A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

VOL. XCII. - No. 2376. FRIDAY, JULY 3, 1914. [Registered as a Newspaper at the General Post Office.] {PRICE 4d. BY POST, 4½d.

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Students' Sketching and Measuring Club

With the view of encouraging amongst architectural students the sketching and measuring of old work, the Proprietors of "The Architect" have decided to establish a Students' Sketching and Measuring Club in connection with this journal.

A separate subject will be set and a money prize given each month, and in July a Travelling Studentship will be awarded to the student who has submitted the best aggregate of work during the year.

SUBJECT FOR JULY, 1914.

A measured drawing or drawings of an eighteenth century staircase in wood with large scale details.

Conditions.

1. There is no restriction on the size of the drawing to be sent in by each competitor, but only one subject is to be submitted.

2. The subject drawn need not necessarily be in its original position, but may be in a museum or elsewhere.

3. Each drawing is to be accompanied by a short historical and architectural description.

4. A prize of Two Guineas will be given to the author of the drawings considered best by the Editor, or at his discretion the amount may be divided between the contributors. All drawings will be returned to their authors.

5. The drawings to which the prize is awarded will, if suitable, be published in *The Architect*, but the Editor reserves the right of publication without payment of any other drawing sent in.

6. Drawings are to be delivered at the office of *The Architect*, addressed to the Editor, and marked outside "Sketching and Measuring Club," on or before Friday, July 31, 1914.

7. Each set of drawings is to be accompanied by a coupon (which will be found below) properly filled up.

8. A criticism on the drawings sent in will be published in *The Architect*, and reference will be made to each under the name of the author or a *nom de plume*. (*See coupon.*)

9. Every reasonable care will be taken of drawings sent in, but the Proprietors of *The Architect* will not be responsible for any injury or loss that may occur.

10. The decision of the Editor of *The Architect* shall be final and without appeal in all matters connected with the Students' Sketching and Measuring Club.

11. The winners of the Travelling Studentships, 1910, 1911, 1912, 1913 and 1914 will be *hors concours* for future Competitions of the Club.

SUBJECT FOR AUGUST, 1914.

A water-colour drawing of part of the exterior of a building erected prior to 1800 A.D. The subject is to be selected so that the sketch is on a large scale approximately to a half-inch detail.

SUBJECT FOR SEPTEMBER, 1914.

A measured drawing or drawings of a church doorway of not later date than 1500 A.D.

The conditions relating to the subjects for August and September will be published during those months.

Conditions of the Travelling Studentship.

1. The Travelling Studentship will be awarded in July 1915 to the author of the best work sent in during the months of July 1914 to June 1915 (inclusive). In the case of students who send in more than one drawing or set of drawings in any one month, the Editor will in making his award select one only from the work of each month to count in the competition for the Studentship.

2. The value of the Studentship will be Ten Pounds, and the holder will be required to make a sketching tour of a fortnight's duration in a district to be approved by the Editor.

3. The sum of Ten Pounds will be paid in two instalments, half before the student starts on his tour, and half when after his return he shall have submitted to the Editor satisfactory work executed during the tour.

4. The proprietors of *The Architect* shall have the sole right of publication of the whole or any part of the work executed by the student during his tour.

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To the Editor of "The Architect."

I herewith submit for July, 1914, the drawing described below, and I declare that the same has been entirely executed by myself. I hereby agree to the conditions published in "The Architect," both as regards the subject for this month and as regards the Travelling Studentship.

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VOL. XCII.

JULY TO DECEMBER 1914.

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THE
ARCHITECT
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A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

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FORTHCOMING EVENTS.

Saturday, July 4

Royal Sanitary Institute : Health Exhibition to be opened, at 3 P.M.

Monday, July 6.

Royal Sanitary Institute : Inaugural Meeting of the Twenty-ninth Congress, at Blackpool, at 3.15 P.M. (July 6—11).

Museums Association : Inaugural Meeting of the Twenty-fifth Annual Conference, at Swansea (July 6—11).

Thursday, July 9.

Institute of Public Health : Reception.

Monday, July 13.

British Archæological Association and Kent Archæological Society : Joint Congress Opens at Canterbury (July 13—18).

Tuesday, July 14.

Royal Archæological Institute : Summer Meeting opens at Derby (July 14—22).

ST. PAUL'S BRIDGE.

We must confess to a certain feeling of disappointment on viewing the designs sent in for the new St. Paul's Bridge. Most of the competitors would seem to have thought that the last word in bridge design had been *spoken when* the Alexandre III. bridge over the Seine was designed. A series of arches spanning the river, with piers between, a parapet above, and pylons at the end are, it would appear, the only elements to be included, and the designer's skill is to be confined to his treatment of these elements. Perhaps this view is correct. A bridge may be regarded as merely an utilitarian provision for crossing a river, and from this point of view all that is required is an arrangement of arches and beams to carry the roadway, piers to support the arches or beams, and a parapet to prevent people from falling off the roadway. And yet, somehow, this view does not content us. We cannot help feeling that the mere provision of an utilitarian structure to cross a river is a very insufficient conception of the function of a great bridge over a great river in the Metropolis of the Empire.

That the City Fathers of London were also impressed with this feeling is shown by the fact that they did not consider that engineering alone should be entrusted with the design of St. Paul's Bridge, but decided to call in the aid of architecture. There was, however, about the invitation to architecture the usual popular misconception that the art is merely concerned with the decoration and embellishment of a construction that is much better determined by engineering. Therefore, the architects who were invited to prepare designs for the St. Paul's Bridge found already settled for them the number, shape, and size of the arches over the river, the line of the roadway, the size of the piers. Even was it pre-determined for them what parts of the whole scheme should be constructed in stone and what in steel. Under these conditions it is scarcely surprising that the architects who set out to design the bridge should have felt the force of these predetermined factors, with the result that the various proposals differ chiefly only in the method of jointing and emphasising by more or less rustication the fixed outlines of the main arches, in fashioning the shape of the piers to dimensions already specified, and in the treatment of pylons and staircases from the bridge level to the embankments and roadways below. It is in these latter features that the designs show most variation, for in them were the architects least trammelled by the dispositions of the engineers.

In designing a bridge of which the main lines of arches and piers are predetermined there are two views that may be taken of the relation of the piers to the arches. They may be regarded as supports for the arches or as abutments for their thrust. Naturally, perhaps, most of the architects have taken the latter view, and their piers have the character of distinct entities, with a sense of detachment from the arches that is detrimental to a sense of unity in the whole structure. Notable exceptions to this treatment are designs Nos. 19 and No. 28. In the former the piers are severely simple in treatment and form, and their rustication carried through into the spandrils of the arches, thus suggesting an organic connection. In No. 28 this idea is still more strongly expressed by curving the arches on plan into the projection of the piers, which have their purpose of support accentuated by curved buttresses rising from the cutwaters. The stone-cutting in this design, with curve upon curve, would, of course, be expensive, but the effect would be admirably expressive of unity and strength.

The first premiated design, by Mr. G. Washington Browne, excels particularly in the excellence of treatment of the ends of the bridge. At the southern or

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Bankside end are planned effective stairs, combining straight and circular flights, and leading up to the pylons, which thus are not mere ornamental structures marking the end of the bridge, but form quasi-archways leading to the stairs. Forming the centre which the circular flights of steps surround are pedestals carrying statuary groups. Somewhat meaningless obelisks flank the pylons and assist in forming picturesque ensemblements of features emphasising the ends of the bridge and the approach thereto from a lower level. The northern end of the bridge is differently arranged. Here the pylons and obelisks are set back from the direct lines of the bridge to form a *place*. There is no particular reason for such a *place* except that it would look well and might be presumed to afford space for the reception into the City of London of a visiting prince and his entourage who had landed at Dover and come up by road. Only visiting royalties do not usually nowadays approach London by this route. They more often land at Port Victoria and travel by special train to Charing Cross. Mr. Browne's piers are of the separatist variety, even aggressively so, though well designed in themselves, restrained and dignified. He has elected to keep their tops low, and so, practically, not breaking the line of the parapet and of the great sweeping curve of the roadway that spans the river from shore to shore. We should like to see the small amount of rustication that Mr. Browne has included on his piers carried into the spandrils of the arches. The plain surface of these cuts up the design too much and destroys the effect of unity and bigness that a great bridge should possess.

Mr. Charles E. Barry, the author of the second premiated design, is the only competitor who has made provision for the protection of foot passengers crossing the bridge. Remembering that the prevailing winds "draw down" the course of the river and blow with disconcerting force across the roadway, rendering umbrellas almost useless in a rainstorm, it seems to be almost a necessity that pedestrians should have the protection of a covered way, with windows from which to view the river, such as Mr. Barry provides. Having adopted this idea we cannot think that Mr. Barry has otherwise made the most of his design. The piers lack their proper importance by lack of sufficient emphasis, and particularly by their subservience to the spacing of the lamp standards, which are evenly placed across the whole span of the bridge, and so subdivided alternately by the piers. Surely it would have been better to consider the piers and the lamp standards as equivalent features in the silhouette, and to have spaced the lamp standards evenly between the piers, having once determined to break the general sweep of the parapet, rather than to preserve it, as Mr. Browne has done.

Mr. Edward R. D. Selway, the winner of the third premium, has determined to make more of the features left for architectural treatment. His piers are decorated with columns, which are legitimately open to adverse comment, for columns necessarily connote the carrying of a load, and on a bridge pier they can have no such load as will justify their necessary size. For the emblematical sculpture that connects the cutwaters with the base of the piers we have, however, nothing but praise. Mr. Selway's pylons are lofty towers, and in this also we think he is right, for if we are to have pylons they should be assertive and capable of holding their own against the lofty buildings that will inevitably flank the approaches to the bridge. In this design, as in Mr. Browne's, there is the effective arrangement of a *place*. The stairways at the Bankside end are, however, enclosed, and so miss the opportunity seized by Mr. Browne's treatment of open flights of steps.

Design No. 22 we cannot fail to recognise as the work of Messrs. Lanchester & Rickards. These architects have avoided the temptation of the pylon, and, having done so, have produced a charming design for the bridge proper, making their piers slightly segmental on plan, which would produce a pleasing play of light and suggest connection with the arches and their spandrils. The design fails, however, in the treatment of the stairways, which start in haphazard fashion, without emphasis, in the open, and afterwards burrow through enclosing masses of masonry. The Bankside end shows presumptive buildings for office purposes that might or might not materialise. The buildings that might perhaps be erected are a feature also on the southern bank of design No. 12, which otherwise shows a rational treatment to the arches of the bridge. The stairways are unimaginative combinations of open and enclosed steps.

Great Doric columns are features of the piers in designs No. 0 and No. 20, those in the latter being spoilt in whatever effectiveness they might possess by being connected in their lower parts with rustication and senseless segmental pediments, a piece of design showing fidgety imagination essentially foreign to the restrained strength that should be a characteristic of bridge design. Design No. 0 is one of those in which the pylons are magnified into lofty structures. In design No. 23 the place of pylons is taken by approach pavilions surmounted by great sculptured groups of Neptune's daughters riding in chariots—at least we suppose they are intended for Neptune's daughters as they brandish tridents. The piers are well designed, of rectangular form with niches, but are, of course, of the separatist variety. Pylon pavilions are a feature also in design No. 14, which is quite a rational production in which the bridge is well treated.

Design No. 15 is described by the author as intended to be "not inharmonious with the Classic adjacent bridges on the Thames and the somewhat more freely treated Tower Bridge." The intention results in a quasi-Gothic design with gateways stretching across the ends of the bridge and a mixture of detail partly Renaissance and partly Gothic, inharmonious in itself. Another somewhat inappropriate design is No. 17, which borrows the conception of the Palladian bridge at Wilton as an emphasising feature of the central span. No. 16 attempts to be pretty, and aims at effect by a piling up of features around the abutments.

On the whole we must concur with the assessor in the superiority of the design to which the first premium is awarded, though both on the score of practical improvement and originality we regret that Mr. Barry's idea has not been combined with an evolution more æsthetically satisfactory.

NOTES AND COMMENTS.

WE note that the members of the Royal Society of Arts are now to be empowered by a new by-law to add a different arrangement of letters after their name than has previously been correct to signify their membership of the Society. The new by-law reads, "Any member of the Society (other than an honorary corresponding member) is authorised to use the style or title of Fellow of the Society, and wherever the word member or members is used in any of these by-laws it shall be taken as meaning Fellow or Fellows." We have always understood that up to the present the correct title of a member of the Society was "*Artium Societatis Socius*," and that there has been a decided reluctance on the part of members to use the initial letters after their names. We presume that F.R.S.A. will not be found quite so objectionable.

In a letter to the *Morning Post* Mr. Lionel Cust criticises the projected rearrangement of monuments in Waterloo Place. He is filled with apprehension because "there will be within a short distance, and all in sight of each other, no less than five national monuments, those to King Edward, to the Guards in the Crimea, to Miss Nightingale, to Lord Herbert, and last, though not least, the huge column erected to the memory of the Duke of York." But why should not national monuments be in sight of each other? It is surely not necessary for the proper appreciation of a piece of sculpture that it should

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be entirely isolated and out of sight of any other. Mr. Cust objects to the contiguity of the Guards' memorial and the statues of Miss Nightingale and Lord Herbert of Lea in spite of their obvious association, because, he suggests, that the goddess would "seem to be distributing garlands to Miss Nightingale and to Lord Herbert." It has before now been irreverently suggested that she seems to be throwing quoits to Lord Napier. One can usually find material for this sort of criticism in any monument. The writer's greatest attack is, however, on the Duke of York's column, which, he says, "must overshadow the memorial to King Edward, and still more so the statues to Miss Nightingale and Lord Herbert. As matters are," he continues, "the statue of Lord Napier is rendered ineffective unless when standing close to it, and it is only the bulk of the Crimean memorial which enables it to hold its own against the column." We have noticed that people usually have their backs to the Duke of York's column when they look at the Guards' memorial. Mr. Cust would have the column removed to Regent's Park and the Crimean memorial left in its present position. Columns as memorials are, of course, nowadays out of fashion, and hence the trouble.

At the recent Conference of Municipal and County Engineers at Cheltenham the abnormal development of Coventry was described as an example of the difficulties that are met with by municipal authorities in arranging for the satisfactory town-planning of the areas under their control, and Sutton Coldfield was also quoted as an illustration of the almost insuperable difficulties met with in effectually town-planning large areas. Three times the area selected at Sutton Coldfield had to be increased, partly at the request of owners, who contended that people whom it was desirable to control might purchase land outside the area and develop it in a manner detrimental to the developed land. We have always felt that the area of any town-planning scheme should be the greatest possible. It is not necessary nor desirable that the whole details should be fully worked out, but the greatest of all essentials for satisfactory town-planning are foresight and comprehensiveness.

The School Board of Glasgow is making a good move in endeavouring to brighten the interiors of their schools and foster an appreciation for art by obtaining pictures on loan in the terms of the resolution proposed by Mr. Martin Haddow: "That, with the view of brightening the class-rooms of our schools for defective children, we ask the Glasgow Corporation to loan a number of pictures from their art collection, and, further, the School Board of Glasgow intimate that they would welcome the loan or gift of suitable pictures (originals or good reproductions) from individual citizens." Mr. Haddow spoke of the elevating influence of art and the beneficial effect pictures would have on the minds of the pupils. He was generally supported by the members of the Board, some of whom emphasised the necessity for care in the selection of pictures, and others the Board's responsibility for art treasures while in their possession. It was remarked during the discussion that the Corporation might do more than it does to help the Board in the education of the children of the city, either by giving flowers as studies and for beautifying all the schools, or by lending examples of the city's art treasures for exhibition in the schools.

R.I.B.A. EXAMINATIONS.

THE Board of Architectural Education of the Royal Institute of British Architects announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:

Subject XIV. (*a*).—*Design for Council Offices.*—Messrs. G. Allen, W. Allison, J. R. Armstrong, J. Blackford, C. J. Brooks, J. M. Brown, W. Allison, C. Ap-Gruffydd, H. Battiscombe, R. Bowes, T. H. Broomhall, C. W. Callender, L. E. Carreras, H. F. Davies, V. Dyson, T. C. Evans, C. A. Foote, L. S. Ford, A. L. Freaker, B. George, H. F. Gossling, H. Gregory, W. Griffiths, A. B. Hamilton, G. L. Head, J. D. Hossack, J. H. Jacob, C. H. James, H. N. Jepson, L. F. Jones, H. Z. Kassem, G. A. Langdell, E. C. Lavender, G. S. Leadam, S. H. Loweth, A. L. Macmillan, R. S. Moore, W. N. Moscrop, C. L. Pace, N. S. Robinson, C. Rowntree, G. Shenstone, P. N. Stedham, K. Takekoshi, W. E. W. Terrell, H. S. Triscott, H. F. Walker, P. G. White, J. F. Wilson, W. C. Young, H. L. Charles, R. A. Duncan, G. M. Eaton, S. Fernyhough, A. S. Forbes, R. Frater, S. G. Garrett, F. E. Gooder, G. H. Gray, C. Grellier, H. V. Hague, E. J. Hart, G. Hemm, G. B. Howcroft, R. Jackson, T. T. Jenkins, A. G. Johnson, W. O. Jones, M. D. N. Koch, F. C. Langrish-Toye, W. V. Lawton, H. A. Lister, D. R. Lyne, J. B. Matthews, A. L. Mortimer, D. G. Mowat, W. F. Pennington, G. A. Rose, C. D. St. Leger, G. P. Stainsby, A. E. Stott, J. A. C. Taylor, L. D. Tomlinson, J. B. M. Walch, N. B. Weekes, H. M. Whitehead, N. F. Woodroffe.

Subject XIV. (*b*).—*Design for Church Spire.*—Messrs. F. A. Barley, C. W. Craske, J. Dickinson, M. Hendry, A. H. Owen, J. E. P. Toothill, C. C. Cheek, H. E. Crossland, J. S. Fyfe, K. B. Mackenzie, M. Robertson.

Designs for other subjects from the following candidates have also been approved:—Messrs. W. B. Binnie, D. C. L. Derry, W. B. Gostling, I. Omar.

ART IN LONDON.

THE BEAUX-ARTS COMMITTEE.

THE June display of Students' Work at the atelier in Wells Mews (off Oxford Street) was neither extensive nor attractive. At first sight there seemed to be a larger output than for May; but after eliminating a series of competition drawings for the Belfast Art Gallery and Museum in one direction, and some of the previous month's work elsewhere, the balance of fresh endeavour was but meagre in quantity, the tenuity not being at all compensated by merit in quality.

The best work was Mr. Adrian Berrington's design for a Provincial Public Library, and having previously made our own notes as to the points for and against, we were pleased to find subsequently that the jury had arrived at a like conclusion; Mr. Berrington's work was a thoughtful essay both in plan and elevations, accompanied by decent draughtsmanship. The other attempts showed a disregard (or at least a failure of grasp) of the requirement for the efficient control by the Librarian. From the standpoint of architectural ethics we cannot approve Mr. Bellamy's comprehensive dome over a square reading-room. In other respects Mr. Berrington's designs in elevation were easily first: the general similarity to one another of the other competing plans was curious, and the variations from such similarity were of trifling import. The *projet* for a shopping arcade was most successfully dealt with by Mr. Bellamy and Mr. Burnett, both of whom grappled with the problem well, but the separation of the arch from its substructure by the interposition of a heavy entablature is a distinct fault in Mr. Burnett's design. We do not agree with the jury in placing Mr. Bucknill's design before Mr. Burnett's and on a level with Mr. Bellamy's, for Mr. Bucknill's treatment is that of an arched entrance merely, not of an arcade.

The *projet* for a portion of a vaulted chamber gave an exhibition of promise inadequately supported by performance; and the formal garden to a country house was even less satisfactorily dealt with.

BRONZES AND TERRA COTTA BY R. F. WELLS.

THERE is no chance of getting weary in looking at the thirty specimens of his work exhibited by Mr. Wells at the gallery of Messrs. Goupil & Co. in Bedford Street, Strand. The show is both small and choice, and if the specimens be not selected it speaks very well for the quality of Mr. Wells' art. He is especially happy in the modelling of women's and children's heads and their facial expressions, whether grave, gay, or merely placid. His subjects, too, are so treated as to tell their own several stories. If we must make mention of any in especial, our choice would be the bronze statuettes of a golfer and a native warrior, and the bronze group of a woman threading a needle. The terra-cotta group "Sleep" shows Mr. Wells' characteristically pleasant modelling of a woman's head, but the right hand is a failure both in drawing and modelling. The bronze group "Happiness" and the terra-

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cotta group "First Steps" also deserve special mention. We regretted that just the one architectural group catalogued should be absent from the exhibition on the occasion of our visit, and if it is as sympathetically produced as most of Mr. Wells' work, our regret is but intensified.

COMPETITION NEWS.

AUSTRALIA.—A competition has been arranged for obtaining designs for a Parliament House proposed to be erected in Canberra at a cost of a million sterling. It is understood that designs will have to be submitted by March 31, 1915.

DONCASTER.—The Corporation have decided to lay out a portion of the Carr House estate for a municipal housing scheme, and architects are to be invited to submit competitive plans for laying out the whole area intended for ultimate development, and for various types of working-class dwellings. It is proposed to proceed with the erection of about 100 houses.

ELLESMERE PORT.—The design submitted by Mr. H. P. Beckett, a local architect, has been accepted in competition for the proposed Council Offices.

GATESHEAD.—Members of the Society of Architects are requested not to take part in the competition for the proposed school in King Edward Street without first ascertaining from the Secretary whether the conditions have been so amended that they can be approved by the Society.

GLASGOW.—In celebration of the 600th anniversary of the Battle of Bannockburn the Corporation of Glasgow have resolved to commission a picture representing some incident in, or the spirit of some epoch of, Scottish history. A sum of 400 guineas is to be paid for the work. Sketches are invited to be sent to the Town Clerk not later than August 31. The Corporation, advised by Mr. James L. Caw, Director of the Scottish National Gallery; Mr. A. Brownlie Docharty, and Mr. John Keppie, F.R.I.B.A., will then make a selection, from which the finished picture is to be made.

MANCHESTER.—The Corporation on Wednesday last considered a proposal by the Sanitary Committee to build a number of semi-detached cottages on the Blackley Estate belonging to the Corporation. Fifty-five designs for such cottages, sent in by twenty-six competitors, have been considered, and the Committee resolved: "That, subject to its being ascertained by the Committee that the probable cost of satisfactorily carrying out the work will not exceed the authors' estimates by 10 per cent., the premiums offered in the advertisement dated April 6, 1914, for competitive plans, specifications, and estimates for semi-detached cottages on the Blackley Estate be awarded to the authors of the following designs: First premium, £50, design No. 28; second premium, £25, design No. 20."

WARRINGTON.—The Education Committee have appointed Messrs. Wright & Hamlyn as architects for the new Council school in Lovely Lane on the terms set forth in the conditions of competition.

YORK.—The Committee of the St. Clement's Working Men's Club have fixed July 31 as the final date for receiving designs for the proposed model club.

ILLUSTRATIONS.

DESIGN FOR A FOUNTAIN FOR A PUBLIC GARDEN.

THIS fountain is 30 feet high, and is intended to be carried out in white Carrara marble, unpolished, or Portland stone. The dragons, caps of columns, drops of seaweed and shells, dolphins with figures of boys riding on their backs, and the lions' heads would be in bronze, the colour effect being obtained by the stains on the white marble caused by the action of the atmosphere and water and the light and shade and colour of the water on the translucent basins at top, &c.

The central fountain would fill and partly overflow the basins and cause the dragons to be enveloped in spray. The basins would be drained by spouts from shells held by the mermaids beneath, which would discharge into the main basin, as shown, which in its turn would overflow through the lions' mouths into the semi-circular troughs at each corner. Water would also be brought down into the shells, on which figures of nymphs stand in the niches and overflow in cascades, and the dolphins would also spout water. The design is by Mr. G. Berkeley Wills, A.R.I.B.A.

BURGH CHURCH, NORFOLK.

ST. MARY, Burgh, has an Early English chancel with good lancet windows and arcading. The Perpendicular tower is built of flint with stone dressings.

BACTON CHURCH, NORFOLK.

BACTON CHURCH is of fifteenth century date throughout. The tower is of flint with stone finishings.

NEW PUBLIC OFFICES, BOARD OF TRADE, &c.

THIS design was recently submitted in the preliminary competition for the new offices for the Board of Trade, &c., and although not one of the selected ten, it will, we believe, be of interest to our readers.

In this design the building was treated as forming eventually one complete whole, and endeavour was made to give the maximum office accommodation conveniently arranged, due allowance being made for lighting, ventilation, &c.

In considering the plan it was decided to straighten the north and west building lines. On account of the large amount of floor space to be provided, many of the offices had to face into internal courts—over 120 feet deep—and to make these courts as wide as possible, to light the offices at the bottom, it was considered preferable to place offices on both sides of the north and south corridors, so somewhat sacrificing the lighting of the corridors to that of the offices. As, however, the corridors would be directly side-lighted by staircase windows at their centres and ends, and the intermediate portions by borrowed lights on both sides—as is commonly done—it is considered that their lighting would have been sufficient.

Reinforced concrete was also adopted, partly to save space; in this case it enabled each court to be eight to ten feet wider and longer, also the thinner walls would allow of better lighting to the offices.

To improve the architectural appearance of the first portion of the building to be erected, it was proposed to, if possible, project part of it beyond the north building line, as shown, to enable the central pavilions to be completed, and as the proposed projections would only have encroached on gardens, it is believed that this would have been allowable. If, however, this could not have been permitted, the pavilions could have been temporarily finished at the north building line, with rusticated piers adjoining the end columns.

The extra office accommodation obtained by these proposed projections—marked "Space (X)" on each floor—was not utilised for the office requirements of the first portion of the building proposed to be built.

In laying out the plan the entrances were centrally placed on the façades with halls, main stairs, messengers' and waiting-rooms, &c., adjoining. In each corner were secondary stairs.

All walls, floors, &c., were to have been of reinforced concrete, faced externally on the main façades with Portland stone above a grey granite plinth.

The total net office floor space in the building equals 383,000 feet super.

The estimated total cost was £561,529, the first portion proposed to be built being cubed at 1*s.* 2½*d.* per cubic foot, and the second portion at 1*s.* 3½*d.* per cubic foot.

The design was the work of Mr. Conrad B. Willcocks, A.R.I.B.A.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

THE crayon drawing by "Plato" is a study from a cast of a piece of Italian sculpture.

The sketch of part of the inner quad of St. John's College, Oxford, also by "Plato," was a water-colour drawing.

IN connection with the courses of lectures which are annually arranged by the University Extension Board of the University of London, a series of visits to English Cathedrals (Chichester, Canterbury, Ely, and Winchester) will take place, under the guidance of Mr. Allen S. Walker, on the four Saturdays of July.

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ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A SPECIAL general meeting was held at the Institute on Monday evening to resume consideration of the proposals for a new charter and by-laws.

The President, Mr. Reginald Blomfield, R.A., occupied the chair with an attendance of nearly 300 members, including many of the Presidents and ex-Presidents of the Allied Societies and other provincial architects.

Before the commencement of the business of the evening Mr. Ernest Newton, A.R.A., President-elect, rose and said: As this is the last meeting of the Session I hope I may be allowed, before the business of the evening begins, to propose a vote of thanks to our President. Only those who have had the privilege of serving and working with Mr. Blomfield on the Council and on Committees can know how much time and thought he has devoted to the interests of the Institute, and with what conspicuous ability he has conducted its affairs. It is not only for work in the Institute that we have to thank him, but also for much work outside. He has had official dealings with Government Commissions and Departments, with municipal and other authorities, and also with our colleagues in Paris, and his one thought and care has been to uphold the dignity and influence of the Institute. I venture to say that Mr. Blomfield will long be remembered as one of the most brilliant and popular Presidents we have ever had, and I will ask you, gentlemen, to give him a very hearty vote of thanks.

Sir Aston Webb, Past President: Without detaining the meeting from the important business before them, I may say I am sure it is delightful to all of us, if we do not agree on everything, to agree on something; and we all agree with this vote of thanks to our President for what he has done during the two years that he has served us. It is no small business to act as President of this Institute for two years, especially with the work that is now going forward. We have been proud of our President wherever he has been; we have been proud of him at the Institute, proud of him socially, proud of him at all the official meetings and functions that he has attended. He has always upheld the honour and dignity of the Institute, and I do not think anybody could have done better than he has. I will only second, with the greatest cordiality, this vote of thanks to Mr. Blomfield for his two years' services in the chair.

The President, in reply, said: Gentlemen,—I am not going to detain you with a speech, because we have a great deal of important business before us, but I must thank you, Mr. Newton, and you, Sir Aston Webb, and all of you, *gentlemen, for the* very kind way in which you have treated this matter. It has been a great honour to me to occupy this chair, and a pleasure to do all that I could to maintain the prestige and advance the dignity of the Institute. Though we have not always seen eye to eye, I feel convinced we have all had the same object in view: the advancement of architecture and the maintenance of the Institute as the custodian of the architecture of this country. I thank you very sincerely and heartily, and I hope you will think kindly of me, even if you do not agree with me.

The discussion of the new charter was then opened by Mr. William Woodward, who spoke on the re-constitution of ths Council. There were, he stated, nineteen allied societies now in existence, excluding those in the Empire but outside the British Isles. If there were to be ten associates on the new Council he did not see how the two classes of councillors could be made equal in numbers. It was difficult to even think of any regrouping or amalgamation of the allied societies. He claimed that Mr. Perks's amendment was too indefinite; any such amendment should be specific and not general. He hoped the amendment would not succeed.

Mr. Hastwell Grayson, ex-President of the Liverpool Society, pointed out that the allied societies had in all 1,942 members. Roughly half the members of the Institute were in the provinces and half in the London district. The allied societies did the "police work" for the profession in their districts and much else for the benefit of the Institute.

Mr. A. E. Murray, ex-President of the Royal Institute of Architects of Ireland, stated that his society was also a Royal Institute and only two years younger than the R.I.B.A. They looked on the R.I.B.A. as the mouthpiece of the profession, but it was a long journey from Dublin to London by boat as well as by train.

Mr. J. A. Gotch claimed to speak in a double capacity, as President of the Northamptonshire Society of Architects and as the "father" of the R.I.B.A. Council. He had served twenty-seven years on the Council—that might show that he had the qualification of experience, or perhaps that he was only an "old fogey"—and he had found at various times that the Council had been out of sympathy with provincial customs and requirements. The Institute Council had been too metropolitan and he wanted it to become more cosmopolitan. They must remember that geography would always prevent the swamping of London interests by provincial members. They could not expect the Presidents of the Aberdeen and other distant societies to be regular attendants at all the Council meetings.

The representatives of the Sheffield and Bristol Societies and the Northern Architectural Association also spoke.

The President of the Manchester Society declared that any reduction in the number of the councillors allotted to the allied societies would be a very serious blow to the unity of architects throughout the country. Provincial architects could not get so much out of the Institute as London men, and he himself had only visited the Institute premises twice during a membership of twenty years.

Mr. Curtis Green deprecated the introduction of politics and political methods into the Institute. They were not a trades union and wished for no trades union spirit in their ranks; the Institute was founded and continued for the advancement of the Art of Architecture.

After Mr. Perks had replied his amendment was lost by 163 to 84 votes.

Mr. H. A. Welch then asked a question as to certain circulars which had been sent out from the Institute offices.

The President replied that in order to obtain a representative attendance at the meeting he had used the emergency powers allowed to him under By-law 39, and his action had been confirmed by the Council. He claimed his conduct was strictly constitutional.

The Secretary then read the circular which had been sent to some of the London members and that sent to the provinces.

Mr. S. D. Topley then moved a further amendment to provide that the majority of the councillors should be men who had passed the Institute examinations, but this was not well received by the meeting and the amendment was defeated.

Clause 10 as proposed by the Council was then accepted by 168 to 95 votes.

The revised Clause 8 was then carried unanimously on the motion of Mr. Peach, seconded by Mr. Cross.

Clause 9 as revised, which sets out the membership of the Registration Authority, was moved by Mr. Peach and seconded by the Hon. Secretary, Mr. Guy Dawber.

Mr. Peach stated that this Registration Authority would act as a "judge of the first instance" and would report all cases to the Council of the R.I.B.A. It must, therefore, be composed of men of wide experience. Under proportional representation the Registration Board would be composed of two fellows, four associates, five licentiates, and "X" registered architects. "X" might be taken to equal six, but he did not believe it would reach as high. This would not provide a board of wide experience in professional matters.

Mr. H. Shepherd moved, and Mr. Topley seconded, an amendment that proportional representation as outlined by Mr. Peach should be accepted with the addition of the President, four vice-presidents, and Hon. Secretary of the Institute. This would give a board of twelve Institute members and eleven or less non-corporate members.

This amendment was lost by 160 votes to 76 and the Council's proposal, which provides for a board of ten fellows, seven associates, and six registered architects, not less than three being licentiates, was carried *nem. con.*

The remaining Clauses, 11, 12 and 13, were carried unanimously.

Mr. Peach then moved, and Mr. Newton seconded, that the Institute solicitors be instructed to prepare the draft petition to the Privy Council.

Mr. Lanchester inquired if the subsequent steps would be carried out by the Council, but the President replied that the petition would come before the general body of the Institute after the preliminary informal negotiations with the Privy Council authorities.

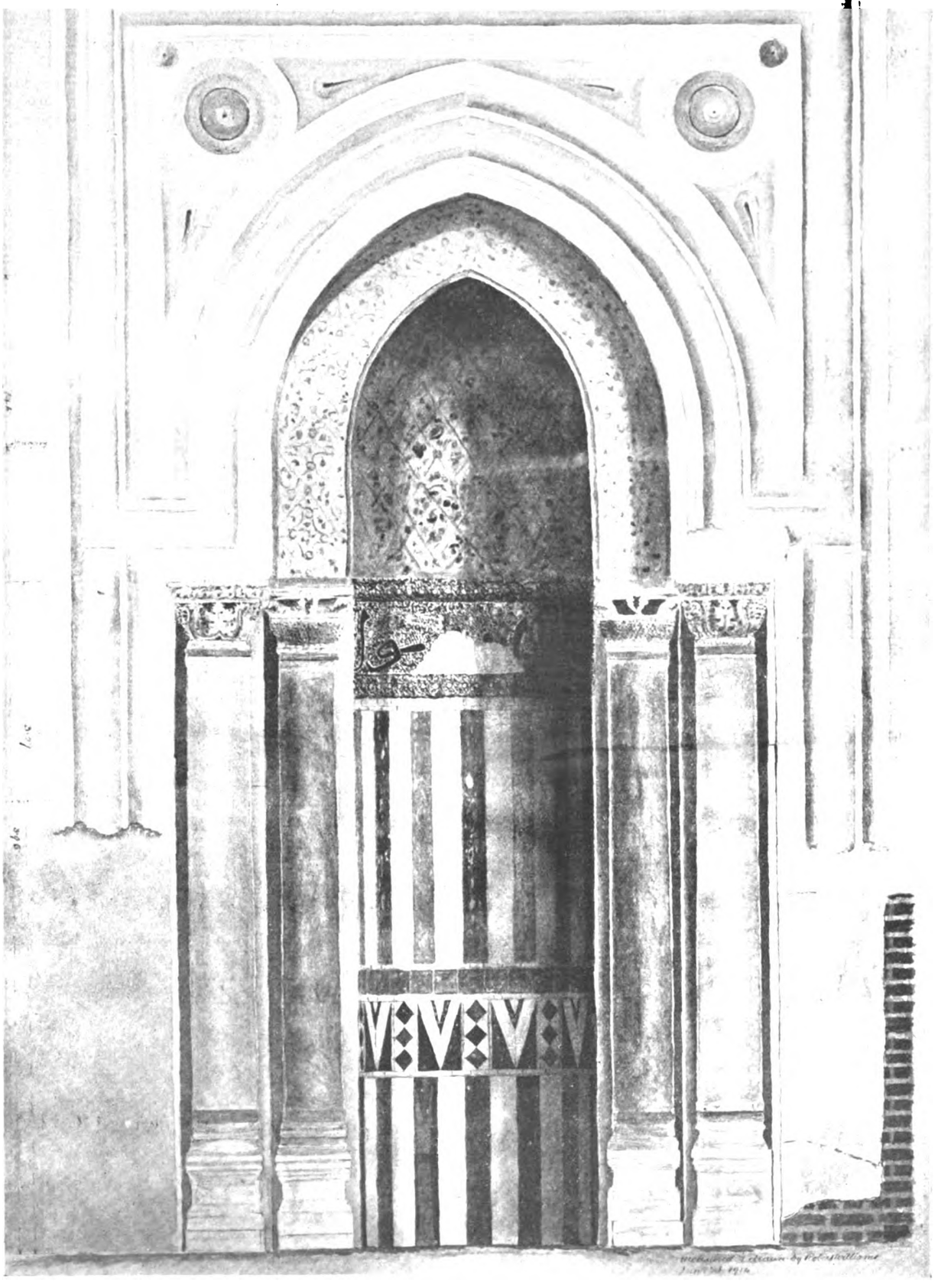
The motion was carried unanimously.

Owing to the lateness of the hour and the great heat of the room the consideration of the scale of fees was postponed and the meeting adjourned at 10.15 P.M.

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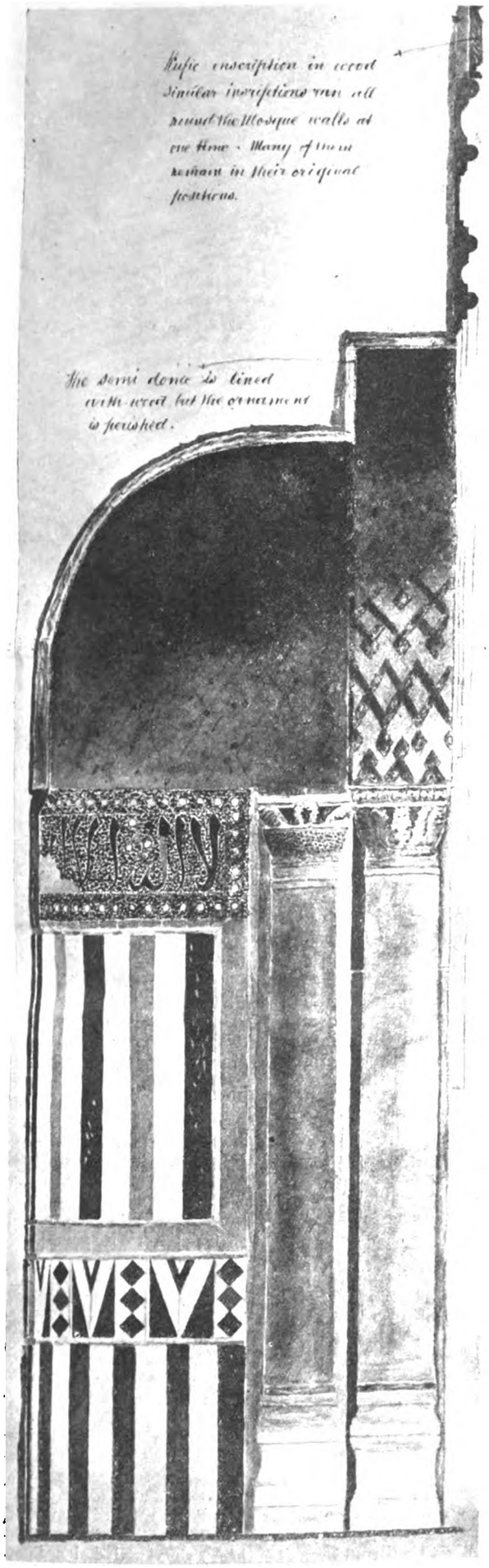
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لا إله إلا الله محمد رسول الله صلى الله عليه وسلم



ELEVATION OF THE KIBLA IN THE MOSQUE OF IBN TOULOUN, CAIRO.—From a Drawing by ROBERT WILLIAMS.

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SECTION OF THE KIBLA IN THE MOSQUE OF IBN TOULOUN, CAIRO.
From a Drawing by ROBERT WILLIAMS.

THE KIBLA OR PRAYING NICHE IN THE MOSQUE OF AHMED IBN TOULOUN, CAIRO.

By ROBERT WILLIAMS.

THIS Kibla or Mihrab praying niche is coeval with the mosque of which it forms a part, a work of the ninth century.

In plan it takes the usual form of a deep (deeper than is usual, I think) niche, semicircular on plan at the back. It is flanked with four marble columns, on either side two. The re-entering recesses in which the columns stand are lined with slabs of grey marble.

The shafts, with their bases and capitals, present the usual puzzle which is nearly always found in ancient Arab work. Neither of these details were made for the job, save perhaps the irregular and ill-fitting pedestals. There is a difference in the bases, shafts, and capitals, but it is not the difference that an artist would make while adhering to a regular *tout ensemble*. It is rather the difference of a very clever adapter of materials that fell to hand. The four capitals are in pairs and are of very fine work—late Byzantine of the best. The two inner ones are of the basket type, with a curious abacus curved on the outer edges like those of Corinthian capitals. One of these has a small volute under the projecting corner, but the other similar capital has a very original spur to support the overhanging corner of the abacus.

In some respects the other two (outer) capitals show a greater memory of forgotten Classicism. The abacus is deep, moulded with a cyma similar to the crown moulding of a Classic cornice. But in detail they are pure Byzantine. The astonishingly deep undercutting gives all these capitals the appearance of having been worked by a very clever hand, who desired to show not only his skill in foliage cutting, but in the great depth to which he could take the shadows. The cutting in hard grey marble required the most delicate yet the firmest handling of mallet and chisel.

The floriation on the outer capitals and the basket work and foliage on the inner ones look at first sight as if they had all been made of plaster and stuck on. The capitals having been painted a deep red, and the broken parts, enhances this view, but when you have mounted a ladder and measured and sketched and thoroughly examined the capitals, you conclude that you have here some genuine pieces of work and artistry, and of an earlier date than the mosque. How beautiful they looked when the hard and crisply cut marble left the hands of the carvers! The workmen must have taken much time and have received much pleasure in the doing of their wonderful work.

The niche is lined with narrow slabs of red, white, black, and green marble set in patterns, which are emphasised here and there with narrow strips of marble.

Above the lining there is a band of mosaic work with an Arabic inscription in black in a thin composition like glass, the exact nature of which I have not yet ascertained. The border to the inscription, not very clear in the photograph, though quite clear in the coloured drawing, is a Greek guilloche, and the white discs are of mother-of-pearl.

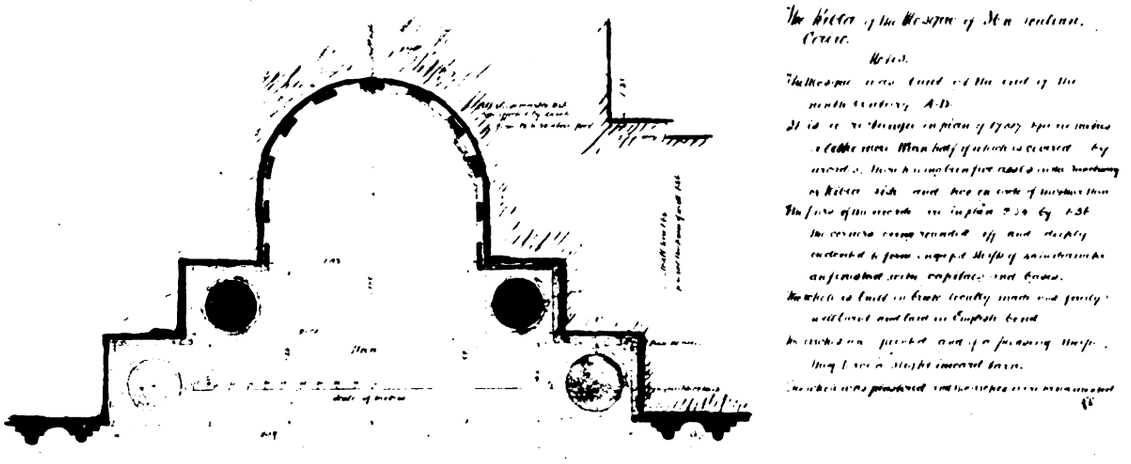
The semi-dome is lined with thin boards broken here and there and covered with well-designed but ill-done lined and floral ornamentation. It makes a paltry finish, and is a poor substitute for a lining of mosaic, which it somewhat resembles.

The bold but characterless plaster work surrounding the niche is much broken, and I think somewhat later than the niche.

Particular attention should be given to the Kufic inscription crowning the whole. This beautiful inscription is cut in wood. A plank about three inches thick was used, and the wood was cut away, leaving the letters and simple border standing out about one and a quarter inches. The letters are the work of an artist. It is impossible to give an exact idea of their beauty by a drawing. Note the terminations of the letters; they are nicely shaped and stand forward of the body of the letter.

There are many of these inscriptions still in situ in the mosque, and at one time the whole of the Koran was carved thus in wood. In an exceedingly interesting building, 1,100 years old, these inscriptions are perhaps the most interesting.

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PLAN OF THE KIBLA IN THE MOSQUE OF IBN TOULOUN, CAIRO.—From a Drawing by ROBERT WILLIAMS.

TOWN PLANNING AND AMENITIES.*

By S. D. ADSHEAD.

THE object of those who framed the Town Planning Act was to ensure that amenity and convenience would be provided in the laying out of new districts and towns. It is not intended to discuss here questions relating to convenience, but to emphasise the importance of providing amenities. Exactly what is meant by amenities it is difficult to say, but it must be assumed that it includes the provision of pleasant places to live or work in, of healthy homes, and towns interestingly laid out, so that life can be enjoyed in the fullest sort of way.

In town planning schemes under the Act now under consideration, reports of inquiries held and information on maps prepared indicate that convenience of arrangement is the main advantage that has so far been aimed at, and perhaps quite rightly. The brains of town planners have certainly been concentrated on this. Questions relating to the provision of amenities have no doubt in many cases been considered, but, so far, they have not been given the first place, which they certainly merit.

Roads and transport facilities are after all but means to an end; the end being the incidents, the buildings, the open places and the parks. But is this all? Only in an indirect sort of way; the true end of town planning is to provide schemes that will ensure that towns will be erected in a way that will inspire the citizen, elevate his imagination, refine him, simplify his existence, and encourage him to live nobly. This, then, is the true end of town planning, to which all methods and schemes for the provision of convenience and healthiness but point the way. This is the goal to which sound town planning must constantly move. Amenity is the one asset which questions of convenience and economy must never allow to go unconsidered. But how to be assured that amenity as well as convenience will actually be included in the plan. People have grown too blithe and casual in the use of words like "beauty" and "artistic," and use them so loosely and recklessly that it is an empty statement merely to say that the consideration of amenities means giving beauty to the scheme and an artistic rendering to the finish. One says that there shall be beauty in the garden suburb, that the houses are to be erected in an artistic way; but what does it all really mean? Let these terms be dropped, and others used that are more exact; let an endeavour be made to get a little nearer the truth. Everyone desires amenities, but it savours of effeminacy and superficiality merely to desire existence in a district described as beautiful and artistic, and one is not quite sure if beauty and nothing but beauty is wanted at every turn. What is wanted, however, is that everywhere fine character and character of the right kind shall prevail. In a search for this one is on sure ground.

Of all human interests, none surpass in attractiveness the interests of personality, closely associated with which are the attributes of character, tradition, and incident in history. Get the personal interest in all that is designed, give it correct character, let it be the outcome of tradition, and let it be the last chapter in the panorama of a great history, and beauty will take its place, real artistic results will follow, and the surroundings will be enjoyed without the necessity of calling them artistic and beautiful without complying with a commonplace idea.

To give the design of a town right character means that each feature and incident must look the part, a part which is the best that can be played.

But let this be applied in concrete terms: this application of right character to the town.

The country road must in every sense be part of the country-side. If it is a great highway, then it must have an asphalte track. If it is a road for pedestrians, farm carts and cattle, then it will not need a path. Nowhere in open country does one need curbs, or side-walks which look like urban tracks. People who walk out in the country are always prepared and enjoy walking on the grass. The margin and borderings must not be kept even and cut, for nothing comes nearer nature than a natural strip of grass. In a suburb the grass margin becomes a continuous park if traversed by many people passing daily to and from town, it should be kept neatly cut, and should suggest that it is closely allied to the neatness of the town. One needs to appreciate more fully what is meant by the rusticity of a village green, the formality of a town garden, the splendour of a suburban park, and the wildness of a public reserve, where primitive nature is to be seen, picnics enjoyed, and where complete change is to be found from the formality of the town.

But it is not only in the general design of roads and parks that the provision of right character must be ensured, it is also in their detail, in the colour of the macadam, in the thickness of the curb-stone, in the character of the foliage, in the fence, in the railings, and even in the kind of seat that is placed in the path. How frequently is the groundwork of the picture completely spoiled with red-brick chippings that are sore to the eye and cry out so loud. Or, worse, with black ash, reminding one of everything that is squalid: the excretion of an industrial age. How often does one see great granite curbs to grass margins, sufficiently heavy to form a good edge to a dock. How often there are iron fences of spiked, rounded iron where a post and rail painted white would be all that is required.

A tall railing is a fine thing when well designed, but the ¾-inch round iron, spiked at the top and set up in bays, is fit only for temporary purposes, and as a permanent public fence is a thing absolutely to be abhorred. It has a cheap and nasty look—it smacks of economy, it is an insult

* A Paper read at the forty-first annual general meeting and conference of the Institution of Municipal and County Engineers, held at Cheltenham, June 24 to 27.

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to the good behaviour of the public; and, lastly, it has no place in the finest memories of park or glade. By all means, if one has to have tall railings, let them be good ones; let inspiration be sought in the fine cast-iron examples which surround all the old parks. Anything is better than the cheap spiked example which, unfortunately, is so frequently met.

Few features in the detail of the garden are so objectionable as a vitreous tile edging or brown glazed coping to grass. Unfortunately this crude method of edging grass is in very common use. No doubt it saves cutting the edges, but how hard! how unsympathetic! One does not see such crudeness in old gardens, nor even in any of our older parks. If the upkeep is so great that it costs too much to keep our turf edges cleanly cut, then they should be left like the edge of a village green. It is dangerous to make rules; a tile edge to the paths of a small Dutch garden might look well, but a vitreous enamel or brown glazed coping round the edge of a lawn is abominable.

And how often are there asphalte paths, terra-cotta vases and terracings in red stocks, ornamenting places which would be in far better character if left, say, like Hampstead Heath or some woodland glade. Complaints about the rates are universal; why spend so much in making beautiful fields into ugly parks?

But the wrong sort of character is not only given to streets and parks; worse sins have been committed in allocating the different interests in a town. How often does one find the corporation works, the gas works, power stations and corporation yard, occupying the choicest residential sites in a town; the scullery sink and stove fixed in the drawing-room bay. Here it is thought both foolish and stupid, but is hardly noticed in reference to an incident in a town. Mortlake, for example, in its evident enthusiasm for economy, has, in its innocence, committed this great crime; but Mortlake, sad to say, is not alone. It is only by fully appreciating the peculiar significance of each site and separate area, and by using it in the most natural way, that the best traits in its character can be brought out.

Or again, why always choose for hospitals and workhouses the most valuable and attractive of sites?

"Beggars may need to find them in an evil day,
But beggars have tongues and can enquire the way."

And why, if such pride be taken in wide streets and open spaces, are they filled with the litter and impedimenta of the town. How many market places, street crossings, and street connections (in themselves characteristic only as open spaces and as the voids) are completely spoiled by the erection about them of cabmen's shelters, tool sheds, ambulance sheds, to say nothing of public lavatories and all sorts of abortions in the way of trolley poles and ugly lamps.

When there are open spaces, by all means let one try to preserve their open character, which is the one attribute above all others they should retain. Only the other day there appeared in an architectural journal a scheme for filling up one of London's finest thoroughfares Whitehall—by planting down its centre an avenue of suburban trees. Of all the mistakes made in instilling wrong character into the features of a town, none are in greater need of correction than those brought about by the wrong planting of trees.

Take Hyde Park Corner, for instance. How utterly stupid to plant trees in the centre of what is a tree-surrounded space. As well take the flowers from their beds and plant them in the path; and why plant trees in a business thoroughfare—why plant them across an open common, and why not plant more of them in masses in the parks?

The solution of many of these issues is, after all, usually found in nothing more involved than the exercise of common sense. The perception of right character and the possession of sound common sense are very closely allied.

But of all the sinners in the matter of town character study perhaps the architects are the worst. This is not an occasion to point out in detail the blackness of their crimes; but what can be more stupid than sham half-timber in the centre of a town—what more characteristic of bad taste and lack of sense than the country cottage erected in an urban district, when there is such a fine tradition of urban architecture all around? What a restless uncertainty is seen when many modern housing schemes are compared with the quiet refined architecture of many a slum. How restrained in its architecture is the slum. One is often forced to realise that poverty is its only crime. If vulgarity and ostentation were, as architectural sins, regarded as equally criminal with poverty, how much modern architecture would fail.

Everyone appreciates the engineer, because he is a practical man. If he were not practical he would not be depended on. Everyone relies on the opinion of the engineer, just as everyone questions the reliability of the architect and ridicules the incapability of the artist. But the modern engineer must be more than a practical man; the pride of the practical man is his undoing in the long run. As a personality he is seriously wanting, for, after all, we are creatures of imagination, and our greatest joys and finest experiences are not met on the roads and in the ruts of so-called practical schemes.

Engineers should guard against entirely concentrating their energies on increasing their rateable areas and reducing the rates. Both policies are, when regarded as the end, shortsighted and sinful. There is only one policy to be practised, and that is to increase the amenities of every acre of the town.

It may be said that such things depend entirely upon funds, but it is not so. There is a constant cry that land is too dear for the creation of parks, that it is too expensive to erect dwellings for the poor of a less height than five or six storeys, that wide streets take up too much land, and so on. If a law were enacted that so much land was to be given up to parks, that no dwellings were to be over three storeys in height, and that no main thoroughfares were to be less than 100 feet in width, then the price of land would, of its own accord, adjust itself to the limits and conditions of its use.

The provision of amenities is not a question of funds, it is a question of brains. The new responsibilities that the Procedure Regulations of the Town Planning Act are placing upon the shoulders of the municipal engineer should stimulate his endeavour and broaden his outlook. He must not undertake more than he can chew. When engineers undertake architecture there is always a terrible collapse. Leave your architecture to the architect. Engineering, when seriously undertaken, is a much bigger thing; and, finally, let the municipal engineer remember that perhaps his greatest and grandest performance is to leave a mark of good character and sound sense, or, in other words, considered amenities all over the town.

THE REVENUE BILL, 1914.

THE Land Union desires to call the attention of all owners and occupiers—whether private individuals or companies—to the expense, trouble, and inconvenience with which they are threatened by Clause I. of the Revenue Bill just introduced by the Chancellor of the Exchequer.

Under the pretext of enabling the Commissioners of Inland Revenue to obtain information for the purposes of the Government's undisclosed proposals, the Bill imposes on all owners and occupiers of agricultural land, and upon all owners and occupiers of buildings, shops, factories, hotels, theatres, restaurants, railways, docks, waterworks, gasworks, markets, and all other commercial undertakings, the costly and oppressive burden of submitting to a written cross-examination far more difficult than the notorious Form IV. The penalty for any default is a fine of £50.

Owners and occupiers have to furnish, besides numerous other details, particulars of all "improvements" executed within the last fifty years, stating:—

"The nature of the improvement";
"The date when carried out";
"The area and identity of the land";
"The cost of the improvement"; and
"The unexhausted value attributable to the improvement."

In addition, proprietors and lessees of theatres and hotels will have to give particulars of business done and working expenses. Proprietors of railways and tramways will have to give receipts from each separate source, working expenses, running powers, and working agreements. Proprietors of docks, waterworks, gasworks, electricity-supply works, hydraulic-power works, markets, tolls, cemeteries, will have to render particulars of receipts and working expenses.

Owners and lessees of mines will have to give particulars of minerals worked, extent of workings for three years, particulars of way-leaves earned or paid.

Tithe owners, where tithe is separately rateable, will

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have to render special particulars, including amount of apportionment and identity of lands.

But this is not all.

Under Section I., Sub-section 3, the Treasury may, by Order, enlarge the scope of this schedule of inquiries, subject to power of either House of Parliament to annul the Order—but without prejudice to anything previously done thereunder.

The declared object of this inquisition is to enable the Valuation Department to "adjust the full site value of every separately rateable hereditament," so as to obtain a figure purporting to represent the unimproved capital value of the land. It is pretended that this will enable the Department to divide all rating assessments, which are based upon annual value, into two parts, one representing the annual value of improvements, the other that of the unimproved value of the land. The methods by which this is to be done remain undisclosed and probably undiscovered. The real object in view is to justify the continued existence of the costly and discredited Valuation Department, and to obtain the votes of the Single Taxers and the Land Tax Group in the House of Commons.

If this Bill is forced through it will be too late to protest, and unless the commercial community desires to place its back under the yoke of a powerful Government bureaucracy and spend most of its time compiling impossible returns, it must assert itself and let the Government understand that it will not be harassed in this senseless way at the bidding of a few theorists.

The Land Union is receiving requests to organise a meeting or meetings of protest against this new Inquisition, and any suggestions in regard to this proposal may be sent to Mr. C. H. Kenderdine, Secretary, Land Union, St. Stephen's House, Westminster, S.W., and will be carefully considered.

OVERHANGING STRUCTURES IN LONDON.

ON November 18, 1913, the London County Council, under the authority conferred on it by Section 164 of the London Building Act, 1894, made by-laws for the regulation of lamps, signs, or other structures overhanging the public way not being within the City of London. Copies of the by-laws were then sent to the Local Government Board for allowance, notice of the Council's intention to do so having been duly advertised. A copy of the by-laws was also sent to each metropolitan borough council, the Ecclesiastical Commissioners, the Royal Institute of British Architects, the Surveyors' Institution, the London Chamber of Commerce (Incorporated), and the Institute of Builders, as required by the Act, and also to the Incorporated Society of London Meat Trades, the Chelsea Tradesmen's Association, and the Borough of Fulham Tradesmen's Association as desired by the Local Government Board.

The London County Council Building Acts Committee have just reported as follows:—The Board has now intimated that the by-laws have been considered in connection with the observations forwarded by local and other authorities concerned. It is suggested that a proviso should be added to by-law No. 1 exempting from the operation of the by-laws cases of re-erection or replacement of any lamp or structure supporting or carrying the same, or the substitution of any lamp or structure supporting or carrying the same for an existing lamp or structure, where the lamp or structure has been fixed or fitted before the date of confirmation of the by-laws; and further, that the local authority should be given seven days' instead of two days' clear notice of intention to fix or fit any lamp, sign, or other structure coming within the scope of the by-laws. We think that these modifications, together with one or two others of a minor character which have been suggested by the Board should be agreed to, and we submit the by-laws amended accordingly.

If the Council approves the by-laws as amended, it will be necessary for them to be confirmed at a subsequent meeting and for the preliminary requirements of Section 164 of the London Building Act, 1894, to be complied with anew. The Local Government Board should also be asked to fix a date on which the by-laws, which are not retrospective, will come into force. We recommend—

(*a*) That the resolution (No. 1*a*) of November 18, 1913, making by-laws for the regulation of lamps, signs, or other structures overhanging the public way not being within the City of London and the further resolution (No. 8) of November 25, 1913, confirming the said by-laws, be rescinded.

(*b*) That, pursuant to the provisions of Section 164 of the London Building Act, 1894, by-laws for the regulation of lamps, signs, or other structures overhanging the public way not being within the City of London be made as follows:—

London Building Act, 1894—*Section* 164.

In these by-laws "local authority" means the metropolitan borough council in whose district the lamps, signs, or other structures, the subject of these by-laws, are fixed, fitted, erected, or retained.

1. A person shall not after the date at which these by-laws come into operation fix or fit any lamp or any structure supporting or carrying the same, nor shall he retain any lamp or structure supporting or carrying the same fixed or fitted after such date so as to overhang the public way in such manner that any part of such lamp or structure respectively shall (i.) be at a less height than 8 feet clear above the surface of the footway immediately under such lamp or structure, or (ii.) be nearer to the carriageway than 2 feet 6 inches from the outer edge of the kerb, or (iii.) project more than 5 feet from the wall or shop front of the premises or the post or upright support to which it is attached.

Provided that this by-law shall not apply (*a*) to the re-erection or replacement of any lamp or structure supporting or carrying the same which has been fixed or fitted before the date of confirmation of these by-laws, if the interval between the removal and the re-erection or replacement does not exceed six months, (*b*) to any lamp or structure supporting or carrying the same which is substituted for a lamp or structure which has been fixed or fitted before the date of confirmation of these by-laws, if the interval between the removal of the one and its replacement by the other does not exceed six months and the substituted lamp or structure does not exceed that for which it is substituted in weight or dimension and does not in situation contravene this by-law to a greater extent than the lamp or structure for which it is substituted. Provided further that any person removing any such lamp or structure with a view to its re-erection or replacement or its substitution by another such lamp or structure shall, prior to its removal, give the same notice in respect of its removal as is required by the by-law numbered (5) in the case of the erection of a new lamp or structure.

2. A person shall not, after the date at which these by-laws come into operation, fix or fit any lamp which, including framework and ornaments, exceeds 3 feet in any part when measured in any direction horizontally, or which, including framework and ornaments, exceeds 5 feet in height, or which weighs more than 84 lb., nor shall he retain any such lamp so fixed or fitted after such date so as to overhang the public way. Any lamp which may lawfully be fixed or fitted under this by-law shall be provided with a secondary means of security of sufficient strength to sustain safely the whole weight of the lamp against falling away from its support.

3. A person shall not, after the date at which these by-laws come into operation, fix or fit any sign or any structure supporting or carrying the same or any other structure, nor shall he retain any sign or structure supporting or carrying the same or other structure fixed or fitted after such date so as to overhang the public way in such manner that any part of such sign or the structure supporting or carrying the same or other structure respectively shall (i.) be at a less height than 8 feet clear above the surface of the footway immediately under such sign or structure, or (ii.) be nearer to the carriageway than 2 feet 6 inches from the outer edge of the kerb, or (iii.) project more than 4 feet from the wall or shop front of the premises or post or other upright support to which it is attached. Provided, nevertheless, that if any such sign or structure shall extend more than 2 feet (not including stays or supports) along the face of such wall, shop front, or support, then such sign or structure shall not project more than 2 feet.

4. A person shall not, after the date at which these by-laws come into operation, fix or fit any sign or other structure which exceeds 2 feet 6 inches in height or extends more than 6 feet in any direction (not including stays or supports) along the face of the wall or shop front of the premises or post or other upright support to which it is attached, nor shall he retain any such sign or other structure so fixed or fitted after such date so as to overhang the public way.

5. A person shall not fix, fit, or erect any lamp, sign, or other structure coming within the terms and provisions of these by-laws unless and until seven clear days' notice, in writing, of intention to fix, fit, or erect such lamp, sign,

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or other structure shall have first been given to the local authority.

6. The London County Council, after consultation with the local authority, may in any case in which it may consider it expedient so to do dispense with the observance of any of the foregoing by-laws on such terms and conditions (if any) as it may think proper.

7. Any person who commits any offence against any of the foregoing by-laws shall be liable for every such offence to a penalty of £5, and a daily penalty of 40*s*. for every day during which such offence continues after conviction.

Provided, nevertheless, that the Court of Summary Jurisdiction before whom any proceedings may be taken in respect of any such offence may, if the Court think fit, adjudge the payment of any sum less than the full amount of the penalty imposed by this by-law.

8. These by-laws shall not apply to—

(*a*) Any facia, balcony, shelter, covered way, or other projection overhanging the public way (not being a lamp, sign, or other structure within the meaning of these by-laws) which has been or shall at any time hereafter be duly sanctioned by the London County Council under the London Building Acts or any other statute in that behalf.

(*b*) Any movable sun-blind overhanging the public way, no part of which, or of the stay bars or other fittings of which, except any vallances or side blinds, shall when open be below an imaginary straight line drawn from a point 7 feet above the footway at a distance of 2 feet from the outer edge of the kerb to a point 7 feet 6 inches above the footway adjoining the front of the shop or premises to which such blind is fixed or fitted, and which shall not be nearer in any part to the carriageway than 1 foot 6 inches from the outer edge of the kerb, or any vallance or side blind which does not project more than 2 feet from the front of the shop below the level of 7 feet 6 inches above the footway.

(*c*) Any lamp or structure supporting or carrying the same overhanging the public way which may be fixed or fitted at not less than 7 feet 6 inches in the clear above the surface of the footway immediately under such lamp, and so as not to project in any part from the line of the window frame of the shop more than 3 feet, and so as not to be nearer to the carriageway than 2 feet 6 inches from the outer edge of the kerb, and which shall be solely for the purpose of illuminating such windows from without, the lamp itself not to exceed 36 inches in height, 24 inches in width parallel to the face of the building, and 24 inches in depth from front to back of lamp in clear, including any ornamentation and chimney.

(*d*) Any gas rail or pipe overhanging the public way used for the purpose of illuminating shops from the outside which has not a greater projection than 2 feet from the shop front, and which is not less than 7 feet 6 inches above the surface of the footway immediately under such rail or pipe.

(*e*) Any daylight reflector or prismatic light overhanging the public way which has not a greater projection in any part than 2 feet 6 inches from the face of the building to which it is attached, and which is not less than 7 feet 6 inches above the surface of the footway immediately under such reflector, and which is securely fixed.

(*f*) Any lamp provided by a local authority for the purpose of lighting a street.

(*c*) That, on confirmation of the by-laws made under the foregoing resolution (*b*), the necessary steps be taken to obtain sanction of the Local Government Board thereto, and that the Board be asked to fix a date for the coming into force of the by-laws.

(*d*) That, on confirmation of the by-laws made under the foregoing resolution (*b*), a notice be given, by advertisement in the *London Gazette* and in at least one London daily newspaper, of the Council's intention to apply to the Local Government Board for allowance of the said by-laws; and that copies of the said by-laws be sent to the metropolitan borough councils, the Ecclesiastical Commissioners, the Royal Institute of British Architects, the Surveyors' Institution, the London Chamber of Commerce (Incorporated), and the Institute of Builders.

(*e*) That the seal of the Council be affixed to three copies of the by-laws made under the foregoing resolution (*b*).

THE annual public exhibition of students' work of University College (Department of Architecture) will be held in the new building of the Architectural Department from July 3 to July 11 inclusive. The exhibition will be open from 10 A.M. till 6 P.M. Admission free.

ART IN CANADA.

By FREDERICK LESSORE.

THOUGH it is not generally known, yet it is a fact which some day will have to be recognised, that, after London, Paris and New York, Montreal ranks next in order of importance as a centre for collections of works of the highest quality, more particularly paintings. The reason is perhaps to be found in the interest and pride taken in their homes by people who have to endure the rigorous winter climate the Canadians do, and in the powerful stimulus given to art collecting by such men as the late Sir George Drummond, Sir William Van Horne, the late Mr. James Ross, Mr. R. B. Angus, and the late Mr. J. R. Wilson, the recent death of whom so many art lovers will deplore, whose enthusiasm seems to have been equalled only by their native Scottish sagacity and quiet good taste.

My own connection with Canada dates from a visit I paid there in 1910, on my return to England from the United States, where I had been doing some portrait busts and holding a small exhibition of my work. I had heard of the remarkable collections of pictures in Montreal, and wished to see them. I also thought that my own work might meet with some appreciation there. I was disappointed neither in the collections, which quite surpassed my expectations, nor in the commissions I obtained.

It was last summer, while completing a colossal statue of Lord Mount Stephen for the new Canadian Pacific Railway Station in Montreal—Lord Mount Stephen was the first president of that railroad—that I was invited to come over to Montreal and model the busts of several of the most prominent art patrons there.

I already knew that there would be a keen appreciation for portraiture in sculpture of the best type—that is to say, truthful and unconventionally-presented busts and reliefs; but I was desirous of finding out what interest Canadians would take in the more imaginative forms of the art. With this object in view and to give a more comprehensive idea of my work, I arranged to hold an exhibition in Montreal and make it as representative in character as possible, for it was evident that only the best sculpture, and that only when presented in an attractive way, would make a successful appeal to such connoisseurs as the Montreal art patrons. My project possessed all the fascination of an adventure into the unknown, as I found it extremely difficult to obtain reliable information about Canada, that Colony having no very close connection with the Motherland in art matters. I knew that there were great difficulties in my way: that the Customs duty on sculpture was 20 per cent. of its value, and that the packing and freight would give trouble and great expense; but, on the other hand, I knew that to have exhibited to them busts and other studies from life of some of the greatest men Canada has produced would give immense satisfaction to everybody, and again I was not disappointed; indeed, the interest taken was such that, though I had fully expected to confine my visit to Montreal, I felt quite justified in accepting an invitation to move on my exhibit to Toronto, where the facilities for exhibition are perhaps not quite so good, but where the interest taken in art is also very keen.

Toronto, as a younger town and the next in order of size, has also collections of art that would be centres of attraction in Paris or in London: Sir Edmund Walker, well known as art patron and connoisseur, and Mrs. H. D. Warren, also an enthusiast of rare discrimination, being prominent among the many collectors of that city.

Ottawa, where I exhibited next, is a much smaller town, but as the seat of Government and the rendezvous of so many men prominent in the public life of the Dominion, is of importance quite out of proportion to its size. I had the honour to model a bust of H.R.H. the Duke of Connaught during my stay in Ottawa, and the task, which gave me real pleasure, gave great satisfaction to my distinguished sitter and to his numerous friends in the Dominion.

It should here be mentioned that art, and indeed all the intellectual activities of the Dominion, have found encouragement and support in the generous and well-informed interest the members of the Royal Family have shown during their tenure of office: the Duke being a very able and sympathetic judge, the Duchess coming of a family with great art traditions, and Princess Patricia herself being a landscape painter of distinction.

Canadian artists have not the advantage of a long tradition, as Canada is a young country; we know but little of them, as they seldom exhibit in England, and mostly go to

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France for their art education, following perhaps in that respect the lead given by the artists from the United States. That we have never heard much of them should not, therefore, be taken to mean that they are not of importance; some certainly would be well respected here if their work were known, or if, like Morrice, they lived on this side.

The painters excel in landscape, preferring mostly subjects reminiscent of the Barbizon and modern Dutch masters, who are so plentifully represented in the collections; while the sculptors, some of whom are very talented indeed, are perhaps at their best in monumental statues and groups for public purposes. Sculpture for architectural uses has not yet developed to any extent; there is, however, no reason to say that it will not develop in the near future. Very few small bronzes of the *objet d'art* type are produced or apparently needed.

Architecture is one of the most flourishing of the arts, and seems at its best in the civic buildings, hotels, banks, railway stations, and office buildings, the ecclesiastical buildings not being so successful. The development in architecture is to a large extent along the same lines as in the United States, steel construction being employed in all except the smallest buildings. Some remarkably fine hotels have been built during the past few years, one of these being the well-known Château Fontenac at Quebec, and a more recent example, the Château Laurier at Ottawa.

The better class of domestic architecture was at one time very much influenced by Richardson, but now the Romanesque type of house is the exception rather than the rule, and a less ornate house, often Classical in style, prevails; in French-Canadian towns, like Quebec and part of Montreal, a strong French influence is to be noticed.

I was struck by the scarcity of really good country houses, many wealthy people, who enjoy the greatest luxury in their town houses, being quite content to return to a more primitive mode of life in the summer when they leave for the country. There was also a great lack of interest in gardens and gardening; the severity of the winter may to some extent account for this. I saw, during the whole length of my visit, but very few garden figures, and I was somewhat disappointed in this, as this branch of my art is one that I have always taken much interest in, and I had brought important examples that I hoped might be cast in lead and find a home in the Dominion.

Generally speaking, though the taste for fine art—that is, pictures chiefly—is on a high level, the appreciation of the applied arts has not kept pace with it; certainly it is most difficult to obtain good furniture, pottery, metalwork, &c., though I quite admit that good modern applied art is scarce in England or anywhere else for that matter. I do not think that the reason for this is the lack of well-skilled workmanship, though from all sides I heard the usual complaints. I think the French Canadian is a splendid artisan. It is due, in my opinion, to the entire absence of tradition—where there is anything approaching a tradition, as in the interior of the Pullman cars, for instance, the result is quite different.

The Royal Ontario Museum of Archæology at Toronto, only recently opened to the public, which contains excellent examples of applied art of all times and countries, promises to be of exceptional usefulness in forming the taste for industrial art of a better quality; in educational value I should think it the most important museum in the country, and the generosity of its donors is another evidence of the interest taken in art matters.

In Montreal a magnificent marble building has been erected to serve as an Art Museum and the headquarters of the Art Association of the city. The Royal Canadian Academy and other exhibitions are held there, and the Association possesses many pictures, some of exceptional interest, of which the greater number have been generously given by Montreal Art lovers.

In Winnipeg an excellent Art Gallery has been built, while in Toronto building operations will shortly begin for a spacious Art Museum and Galleries, where exhibitions can conveniently be held.

Mention should be made of the Château de Ramezay in Montreal, where many objects of interest in French-Canadian history are housed; and of the Archives Building in Ottawa, that contains valuable historical documents in great number and an unrivalled collection of old prints.

One point that cannot be too strongly insisted upon is the incredibly rapid growth of any movement in Canada. Not only has the population and wealth of the Dominion increased so remarkably of recent years, but the development of art seems to be correspondingly rapid; one cannot visit a town and come away feeling that one has a definite knowledge of art conditions there; in five years, in three years perhaps, they may have completely changed. Take Toronto, for instance, Toronto that is now the most important centre for music, a centre that all the greatest musicians of our time visit, and that has what is said to be the finest choir in the world—the Mendelssohn Choir. Only a few years ago there was practically no music worthy of the name. Then, bearing this in mind, one can look to the future of art in Canada with confidence, remembering that the United States, which to-day have such overwhelming influence in the art markets of the world, when they had the population the Dominion has now took far less interest in art than Canada does at the present moment.

Mr. Frederick Lessore, the sculptor, author of the foregoing article, who has recently returned from Canada on the



PORTRAIT BUST OF H.R.H. THE DUKE OF CONNAUGHT AND STRATHEARN.—Mr. FREDERICK LESSORE, Sculptor.

Cedric, spent about nine months exhibiting his work in the principal towns of the Dominion. The exhibition, which included portrait busts of well-known Canadians—Lord Strathcona, Lord Mount Stephen, and Sir William Van Horne—was the largest and most representative exhibition of sculpture ever seen in Canada.

Mr. Lessore erected in the new Canadian Pacific Railway Station at Montreal a colossal bronze statue of Lord Mount Stephen, the first President of the railroad; and during his visit to Ottawa modelled a bust of H.R.H. the Duke of Connaught and Strathearn, which, when cast in bronze, is to be placed in Clarence House.

THE BEAUTY OF AGE.*

By A. C. BENSON, C.V.O.

1.—I AM going to-day to attempt to say a few words about the beauty of ancient buildings, what it consists in, how we are to recognise it, how we are to preserve it, and why we must try to recognise and preserve it.

An old and beautiful thing has two quite distinct kinds of beauty, though it is not always easy to say where one begins and the other ends. It has original design and conception, which Ruskin rightly says ought to be called expression, and which is, technically speaking, the classical quality in beauty; it has also the beauty of association, a

*** Abstract of a Paper read at the thirty-seventh annual meeting of the Society for the Protection of Ancient Buildings.**

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varied and slowly acquired thing, which gradually draws into itself all sorts of interests and delights, deposited, as Pater says, cell upon cell; and this beauty of association is definitely a romantic beauty, not a question of form and proportion, but a power of evolving a sort of spiritual music, in which themes and motifs outline themselves for an instant and disappear again.

2.—I propose to speak to-day of the power of association; and though in one sense it cannot be called beauty pure and simple, yet it is a very real and true sort of beauty, though a complicated one, in the sense that it appeals to the spirit with a subtle and delicate sort of charm, and awakens all sorts of remote and musical echoes in the soul, like the music which lingers round vaulted roofs, when the organ utters the last huge chords of the high-piled symphony, and sinks into an awe-struck silence.

But the main difference is this—that the beauty of expression of which Ruskin speaks is a thing in itself, as distinct as higher mathematics; an absolute quality, while the beauty of association is a subjective thing, contributed to a great degree by the spirit of the individual man who perceives it. The more highly stored that the mind behind the eye is, the more deftly and swiftly that it summons up and applies its garnered impressions, the more that it knows and feels, by so much the more appealing does the romantic force of association become. Dean Stanley, who in later life parted with the sense of taste and smell, found music a more or less distracting noise, and lost his pleasure in natural scenery, would still, his biographer says, go twenty miles to see a few grey stones in a field, which had once formed part of a historical building, because they could evoke by a species of symbol a memory of great persons and lofty actions.

3.—We are at the present day in a curious art-epoch. It is the custom to speak of modern art as a sort of vague and weltering flood, shallow, restless, and decadent, without fixed channels or guiding principles. I believe that there is an immensely vital influence at work, tumultuous, irresponsible, anarchical if you will, but full of eager experiment. I believe that we are rather caught among an infinity of currents, and that we are feeling our way to a very definite sort of tradition; it is true to say that the last century was literally submerged in romanticism, a rebellion against the arid classicalism of the eighteenth century. I intend to-day to confine myself more or less closely to the art of architecture; and here we have the Gothic revival, originating with Gray and Horace Walpole, nurtured by Walter Scott, and taking shape in the almost painfully ardent work of men like Essex and Wyatt in architecture, like Peckitt and Willement in glass. Then came Ruskin, with William Morris and Burne Jones hard on his heels, and the cult of the blessed fourteenth century. Then there came a reaction; and since the 'eighties there has arisen a sort of return to Renaissance forms, and a tendency to combine Classical and Gothic strains. Though there is an infinite sympathy with almost every form of ancient as well as of Post-Restoration art, and an almost greedy appropriation and combination of forms and styles, yet art seems at present mainly imitative, a pot-pourri of themes and motives. Indeed, appreciation has outrun invention; and though in domestic architecture there is a clearly discernible tendency in the work, let us say, to take a single instance, of Mr. Lutyens, towards a clearly defined and original impulse, yet at the same time taste is so widely diffused—taste not of a high order, but a melancholy blend of stubbornness and submissiveness—that the general result is still an artistic anarchy, which seems now to be waiting for a strong and unmistakable lead.

4.—I have lately been spending a fortnight in the Cotswold country, which I first discovered by accident on a bicycle tour thirty years ago. My first find was Burford, that astonishing little town, with its Gothic, Tudor, Jacobean, Renaissance, and Classical houses, all more or less local products, I suppose, but distinguished at every date by an infallible touch of style, and all built out of that creamy orange oolite which cuts so easily and so sharply, and weathers so finely and with such diversity of colour. The interest of that little town is that it shows a strong tendency at every date to try experiments. It is dominated by no traditions. At a later date I found out Broadway and Chipping Campden—the latter being, I believe, the most interesting and beautiful little town in England; I saw Stanway, with its Inigo Jones gatehouse, and many of those fine secluded manor-houses, among bare, stone-built hamlets, in the long, cold valleys.

But it is humiliating, in a sense, to think that I was only exemplifying a tendency, and that others were discovering the Cotswolds too. In those days there was just a hint, in a little village mansion or a mullioned cottage gracefully adapted, that artistic people were setting up house there quietly, in panelled stone-floored rooms, and liking the touches of grace and style that met the eye at every turn.

But now the Cotswolds are discovered, as they say, with a vengeance.

A secluded combe, which I found some fifteen years ago, where time seemed to have gone to sleep, has been discovered by a rich man of exuberant taste. An ineffable shabbiness, a sense of disgrace, seems to have fallen on the old cottages by contrast with the "improvements."

Now I do not want to be sentimental over this; I do not object to people desiring to live in beautiful places. Moreover, I have no kind of doubt that in a hundred years the place will be fully as beautiful again. But it seems to me curious that if one is attracted to such a spot by its unique charm of seclusion and homeliness, one should not wish just to slip unobserved into the life of the place, and try to fall in with the secret of its peace. No doubt when the old manor and rectory and church were first built, an inroad must have been made into a rare kind of sylvan tranquillity; yet one cannot but feel, too, that the contrivers of those fine little buildings must have had a strong sense of something beautiful at which they were aiming; but I also feel that it was a simpler sort of instinct then—and that art just came in to decorate life; but for a rich manufacturer to plant himself there seems to me an exotic sort of luxury. It makes one understand, at all events, the frame of mind of William Morris when he said that this particular kind of self-conscious epicureanism which trades under the sacred name of art must be utterly swept away before any authentic art can begin. The difference lies to a great extent, I think, in this: that the first builders settled there because they meant to live there, while the later owner treats it as a comfortable house for the summer, as long as it is filled with pleasant guests, and because it is what he would call within reach, which only means that it is easy to get away from. It is not, in fact, a home, but a house of recreation; and that is what strikes one about the whole, that the last thing which it means to the owner is striking silent root.

It is this sticking of art into life, as one would stick a flower into a buttonhole, which is so truly dreary. Art is not worth anything at all if it is used so; it must mingle with life, not be smeared over the gaps of it.

5.—But the saddest thing about these beautiful Cotswold villages is the condition of the churches. It is almost impossible to find an unrestored church; and it is also nearly impossible to find a church which has not been restored out of all interest and beauty. It is hardly, perhaps, fair to say that, for the fine Cotswold stone fortunately gets harder from exposure, puts on its rich colour, and the carving is often as sharp and clear as when it was first made. Thus the exteriors have suffered comparatively little; but the interiors have been scraped, cleansed, furbished up, renovated—pews, woodwork, galleries have vanished in favour of neat deal Gothic seats; mean and commonplace reredoses have been inserted; many monuments have been removed, and frightful glass has been inserted.

The worst part of it all is that this sort of restoration has its roots in a perfectly virtuous and active desire to make the church an efficient institution, and to render it as spick-and-span and clean, as comfortable and bright, as a well-ordered middle-class parlour. Brightness is a word in whose name the worst artistic crimes have been committed. All solemnity and venerable decay and remoteness have to be obliterated in favour of efficiency and smartness. I did, indeed, enter one church where the hamlet was too poor and the vicar too old to collect money; and there was every quality present that one would desire. A real tradition, not a fatuous reaction, every century being really represented by an infinite variety of accretion; and in one place, best of all, I found a practically disused church, a noble cruciform pile, too far from the village for practical purposes, with all its old surfaces and weather stains, its woodwork leaning at many pleasant angles, its flooring patched and uneven, a real and vital growth, from end to end.

But it is heart-rending to think of all the exquisite beauty which has been sacrificed in the last fifty years by men of vigour and determination, who have every virtue but that of connoisseurship.

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Of course it may be said that the mediæval builders were ruthless demolishers. They undoubtedly did prefer a clean, new stone building to an old and mouldering one. But then the old builders had an idea; they were going forwards; their art was in process of developing with a light-hearted eagerness. What is so deplorable about modern restoration is that it is all a submissive harking back to an arbitrary period of church art. It is not a departure, it is a tame virtuosity, desiring, if possible, to reconstruct a vanished atmosphere, without any real knowledge of what that atmosphere actually was. The essence of the old building and decoration was to have a few fine dignified things on which the eye might rest with unsated pleasure, for ever discovering fresh beauties. But the new theory is to cover up everything with tawdry and flashy decoration, which gives perhaps a scenic sort of pleasure at first sight, and which breeds an ever-increasing disgust at the continued contemplation of its shallow trickeries.

And then what is still more detestable is the callous neglect of all the later developments, the assumption that Classical forms are essentially Pagan, the horrible narrow-mindedness which regards the Almighty as being in favour of fourteenth-century effects, and helplessly unable to guide or affect the taste of seventeenth-century decorators. I believe myself that this sort of purism is a real sign of vital decadence, because it means a deep-seated absence of historical and artistic sympathy.

Those who ordered and those who designed such things thought them beautiful; and nothing which has ever engaged the affections and devotions of human hearts can ever wholly lose its charm.

6.—If one wanders about among these Cotswold villages, one sees plenty of pretty children, with the charm of opening life all about them; and one sees, too, handsome boys and young men and graceful girls, who are silent enough and uncommunicative, perhaps even to each other, but yet whose faces and movements speak of the beauty which is interwoven with the world more eloquently than their tongues could discourse of it; and then one sees men and women who look sturdy and sensible enough, but as if the toil of life left them little enough else to think about; and one sees, too, faces which seem to have gone to pieces under the stress of life and appetite—but then also, sitting at garden-ends, or coming with a friendly welcome to the doors of tiny parlours, or just creeping about slowly in the sun, one sees old men and women, into whose faces and forms some curious beauty of work and love and experience and patience seems to have passed.

That is the human beauty of age; not a beauty of form or of desire, but a beauty which comes of having lived and worked and loved, rooted in a tiny hamlet on the skirts of a wooded hill, with perhaps a touch of suffering and of loss to refine it. So that one feels—and I do not think fancifully—that something has been gained and achieved, which cannot be done otherwise than by living; and that some of the beauty of those hillsides has left its mark there.

Well, something of all that seems to have passed into many an old house as well. It has sheltered many lives; it has seen happy and quiet things; and it has also seen ugly, cruel, wicked, and tragic things. It is not sentimental to think thus, if one faces the fact that the house has seen much that had better never have happened, and out of which no good can spring; the sentimental view is to think that life has always been sweet and halcyon there, with children's voices and young lovers wooing, and old folks talking slowly at the close of the day. Life is not in the least like that, and is not meant to be.

That is the emotional appeal of the old house; it is unreal in a sense, a false pathos, because in a world where there is much conscious pain we have no need to multiply it, and to credit passive and insensible things with our own tender susceptibilities. We ought not to seek to augment our sensitiveness.

But, on the other hand, how natural such susceptibility is! Anyone who has ever broken up a home and parted with familiar furniture must surely have had the feeling that the old chairs and tables are being unjustly used, and that they will not really ever feel happy with their new owners; and the love of a home is a complex thing. There is, too, the spiritual side of what I have called the beauty of age—its real and potent effect upon the emotions of men.

And then, in a less ethical and a more artistic region, there is the beauty which falls upon a building from the accommodation of all its mutual parts, through the touch of rain and sun, the pressure of wind, the strains and stresses of the earth, the movements of the soil, the slow passage of hidden streams, the thrust of burrowing tree-roots, the settling-down and distributing of the weights of wall and roof. When a building is first set up, it has a mathematical rigidity and precision, as of a box of stone half imbedded in a field. Then the slow process begins until at last the house comes to look, not as if it were set upon the soil, but had grown up out of it, like a rock or a tree. It is no longer an intruded thing, but a part of the scene. Yet that particular effect, which no wealth can purchase and no skill can reproduce, is the very quality which the strong-minded restorer so ruthlessly casts away, not understanding that a rebuilt, repointed, furbished tower has nothing whatever of interest about it except the interest of a copy, an archæological study. And this is the real horror of restoration, that this slow treasure of accrued beauty and charm is so dully sacrificed, and the gentle influence of centuries flung petulantly and ignorantly away.

7.—So my first and last plea is that we should dare to let things alone, even if we do not understand them or think them beautiful, for the sake of the tender care which set them in their place, just so and not otherwise, and in the name of memory and reverence and love. For taste is a very changeable and inconstant thing, but reverence is eternal. The old house, the old church, ought to mean something to us, and we must not lightly change and deface them. If we are dealing with old and venerable things, we ought to do as little as we can to them—mending and repairing, but not what is called restoring. For a restored church is not a new church, and it is not an old church—it is a new church without its originality, and an old church without its dignity. "God has given you one face," as Shakespeare says, "and you make to yourself another."

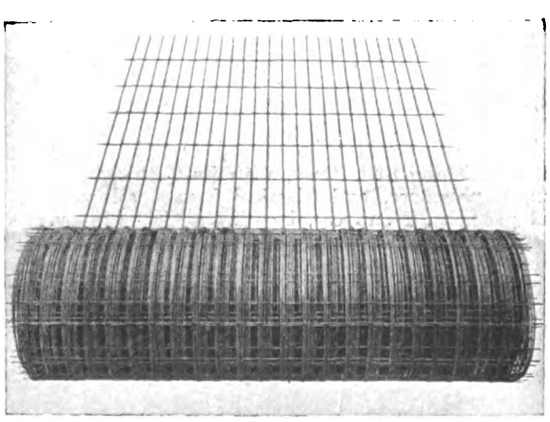
And if additions must be made for use and life, let them be frank additions, and not an attempt to fake what is old. I frankly feel that the weakest part of modern art is its attempt to fake antiquity; and that is a melodramatic sort of art, an attempt to produce illusion—a mere piece of stage-craft, an attempt to import historical colour which is not fairly there.

The beauty of age is very easily marred, and it cannot be imitated; and I am sure that whatever art is, it must be sincere. It is the emotion which art can give which makes it worth while; but it must be a real emotion, and not a bit of clever self-deception. A love of story-telling and character-moulding is typical of the decline of real emotion.

There is a mystery and a meaning in it all. We do not know exactly what it represents, but we must do our best to interpret its meaning; and then we must be serious about art, if we are to get any help from it; but never solemn. It is being solemn about art when we try to make it produce fictitious effects just for the luxury of the emotion; but it shows a lack of all seriousness about it if we can misuse and deface a beautiful thing and destroy the rich beauty which only time and use and reverence can create.

B.R.C. REINFORCEMENT FABRIC.

EVERYONE knows that the cardinal principle underlying the application of reinforcement to concrete is that whereas steel is elastic and extremely strong in tension, concrete is



strong in compression, but comparatively weak in tension. We dare not think how many inventors have worked out theories as to the best possible combination of these two

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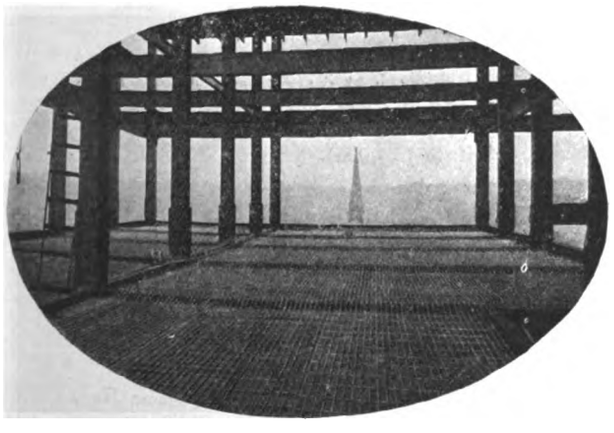
materials since the first patent was granted, to an Englishman, in 1831. There is obviously room for many methods when one considers the widely differing applications which have to be coped with. Such ever-increasing success has been attained in the direction of economy and efficiency that no architect or engineer can afford to disregard the subject. The difficulty now lies rather in deciding as to which is the best solution to employ among the many alternatives offered.

The British Reinforced Concrete Engineering Company, Ltd., favour reinforcement by steel-wire fabric. This consists, as will be seen from our illustrations, of a wire mesh made up of a series of parallel longitudinal wires, held at fixed distances apart by means of transverse wires arranged



at right-angles to the longitudinal ones. It being, of course, essential that the reinforcement should not shift while the concrete is being laid, the wires are electrically welded together at the points of contact by a special process. The makers say this material provides an ideal reinforcement, for the longitudinal wires resist the main tensile stresses and the transverse wires assist to distribute concentrated loads and to prevent temperature cracks.

We have received two booklets from the company, which show B.R.C. reinforcement for slabs and road beds respectively, and a third which describes a special mesh for reinforcement of ground floors. From the latter we learn



that the cost of the particular wire mesh is about 9*d.* per square yard, and that it is stocked in rolls 60 feet or 240 feet long by 75 inches wide.

In the booklet dealing with floor slabs, tables are given to show the size of fabric to be used for various classes of floors of continuous spans of from 6 to 14 feet. The working stress allowed on the concrete is 600 lb. compression per square inch, and on the steel wire 25,000 lb. per square inch, being one-third of the stress at the elastic limit. The figures in each table give the standard reference number (of which there are fourteen) of B.R.C. fabric recommended for the loading indicated at the head of the table. In Canada and the United States roads are often con-



structed of concrete. This method will probably be increasingly popular in this country. Already the B.R.C. road-bed reinforcement has been fairly extensively used.

FORMS FOR CONCRETE WORK.*

By ALLAN GRAHAM, A.R.I.B.A., M.C.I.

WE do not often hear of failures occurring in reinforced concrete buildings after their completion, but generally during their erection, and although all failures cannot be attributed to defective forms, yet the forms are to blame in a sufficient number of cases as to render the forms for concrete work an important element in securing efficiency in construction, and not merely in the utilitarian aspect. Although it is not the practice, in England at any rate, for engineers to design their forms, that being generally left to the contractor, it is the author's belief that an engineer, for his own protection, should at least set out some typical portion of the forms for the contractor's guidance, thus doing all he can to circumvent failure in this direction at any rate. Of course, good forms alone will not ensure safety, and we have to use vigilance likewise in detecting bad work, bad design, and bad material. For, as Lieut.-Colonel Winn has pithily put it, "A fool with a shovel may absolutely defeat the most elaborate calculation involving the calculus."

Formwork is a term embracing all kinds of moulds or centering set up to give shape to the concrete or similar plastic material. It is so employed in America. There is a consensus of opinion in favour of the definition "formwork" as an inclusive term, owing to the real meaning of the term "centering" having a more limited application than usually attributed to it. As the word "form" is the same, and has the same meaning in French, German, Italian, and Spanish, the author believes it will be agreed we are on safe ground if we accept it for our purpose. The term has great merit, being superior to such terms as falsework or shuttering.

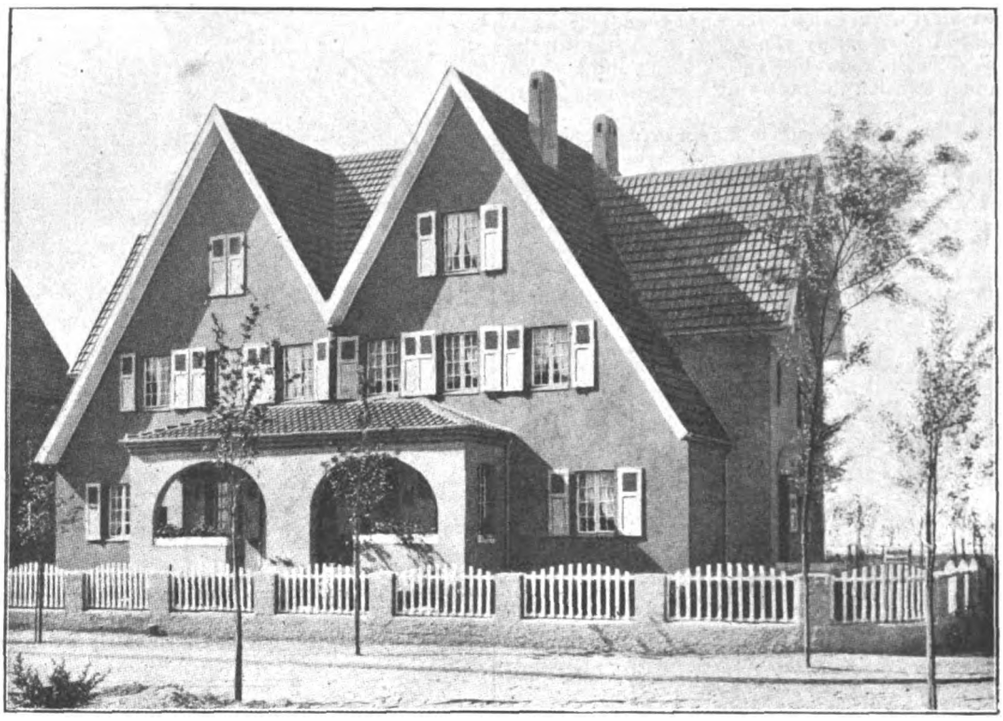
The contention that the engineer should prepare the design of formwork has much to recommend it. An engineer will generally have no hesitation in setting out the design of centering for a bridge or other equally important work, but for some reason or other the design of ordinary formwork, which plays such an important part in the cost of reinforced concrete, is never considered. There is no doubt that a thorough understanding of the principles underlying the everyday practice of concrete form design is one worthy of the best engineering talent. With this understood the problem can be analysed, the requirements realised, and the design decided upon that will be the most economical and efficient, giving due consideration to the salvage of materials.

It is not merely that a design is required for a specific

* Abstract of a Paper read at the forty-sixth ordinary general meeting of the Concrete Institute.

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MODERN EUROPEAN ARCHITECTURE.
GERMANY.



[From *Moderne Bauformen.*

SUBURBAN SEMI-DETACHED HOUSES AT COLOGNE.—Herr MAX STIRN, Architect.

case which will safely support a certain volume of concrete, it is rather the problem of designing a set of forms which can be erected, taken down, and many times re-used during the progress of work. The factors involved are many, such as the type of centering, the kind of timber, how much to centre at one time, and what clamps, bolts, nails, wire, or strap steel should be used. These things, properly considered, will repay the trouble taken and result in better and more economical work.

Various authorities place the cost of formwork at anything from 20 per cent. to 60 per cent. of the total cost. The possibility of reducing this hindrance to the more general use of concrete ought to be sufficient inducement for us to give the matter close consideration. The great American constructional firms have struck out in many directions to reduce this cost to a minimum, and to this end the forms in most instances are designed in the drawing office, and this, we are told, at a cost of 2 per cent. and a saving of 10 per cent.

The author then dealt with the kinds of timber that are used for formwork; the desirability of giving a camber to the bottom of beam boxes; the desirability of carefully checking the measurements to see that the concrete members are actually carried out as designed; the necessity of having joints close to prevent the mixture escaping; the remedying of cracks; the removal of forms, clamps, and nails to hold the forms together; the repair and re-use of formwork; the number of sets required in order to get on fast enough with the work of building; the importance of carefully clearing forms of all sawdust, dirt, and chips before filling with concrete; the wetting of timber to prevent sticking; the use of sheet metal; the time for striking forms and methods of determining the strength.

He then dealt in detail with forms for various parts of construction—as, for example, floors, beams and pillars, culverts, conduits, tall chimneys, silos, tanks, gas-holder tanks, dams, domes, and bridges.

The Paper was illustrated by lantern slides and a considerable number of working drawings.

MR. JAMES MILLER, A.R.S.A., F.R.I.B.A., Glasgow, has prepared plans for buildings proposed to be erected by Cranston's Tea Rooms, Ltd., in Renfield Street, Glasgow, at an estimated cost of £35,000. The plans include a handsome picture-house, which will be independent of the Tea Rooms.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Aston Clinton.—Council School: additions and improvements.

Buckingham.—Royal Latin School: cookery and handicraft centres.

Chalfont St. Peter.—Cottage Hospital: additions.

Farnham Royal.—Shop, Post Office, and four cottages, for Mr. F. C. Garr Gomm.

High Wycombe.—Chair Factory, Desborough Avenue: additions, for Mr. C. Birch.

Four houses, Desborough Road, for Mr. W. Keen.

Royal Grammar School: adaptation as a Technical Institute (£4,000).

Langley.—Special Subjects Centre, Horsemoor Green.

CHESHIRE.

Haslington.—Congregational School. Mr. J. Martin, architect, Parr's Bank Chambers, Nantwich Road, Crewe.

Northwich.—Parish Hall, Castle. Mr. A. E. Powles, F.R.I.B.A., architect, 7 Winnington Street.

CORNWALL.

Trencreek (near Newquay).—Church Room.

CUMBERLAND.

Cockermouth.—Grand Theatre and Cinema Hall, Station Street (for 804 sittings).

Ulpha.—Ten almshouses. Messrs. Shaw & Shaw, R.I.B.A., architects, 45 Highgate, Kendal.

DEVON.

Barnstaple.—Foresters' Hall, High Street. Messrs. W. C. Oliver & Son, architects.

Borey Tracey.—Workmen's cottages, Flat Park.

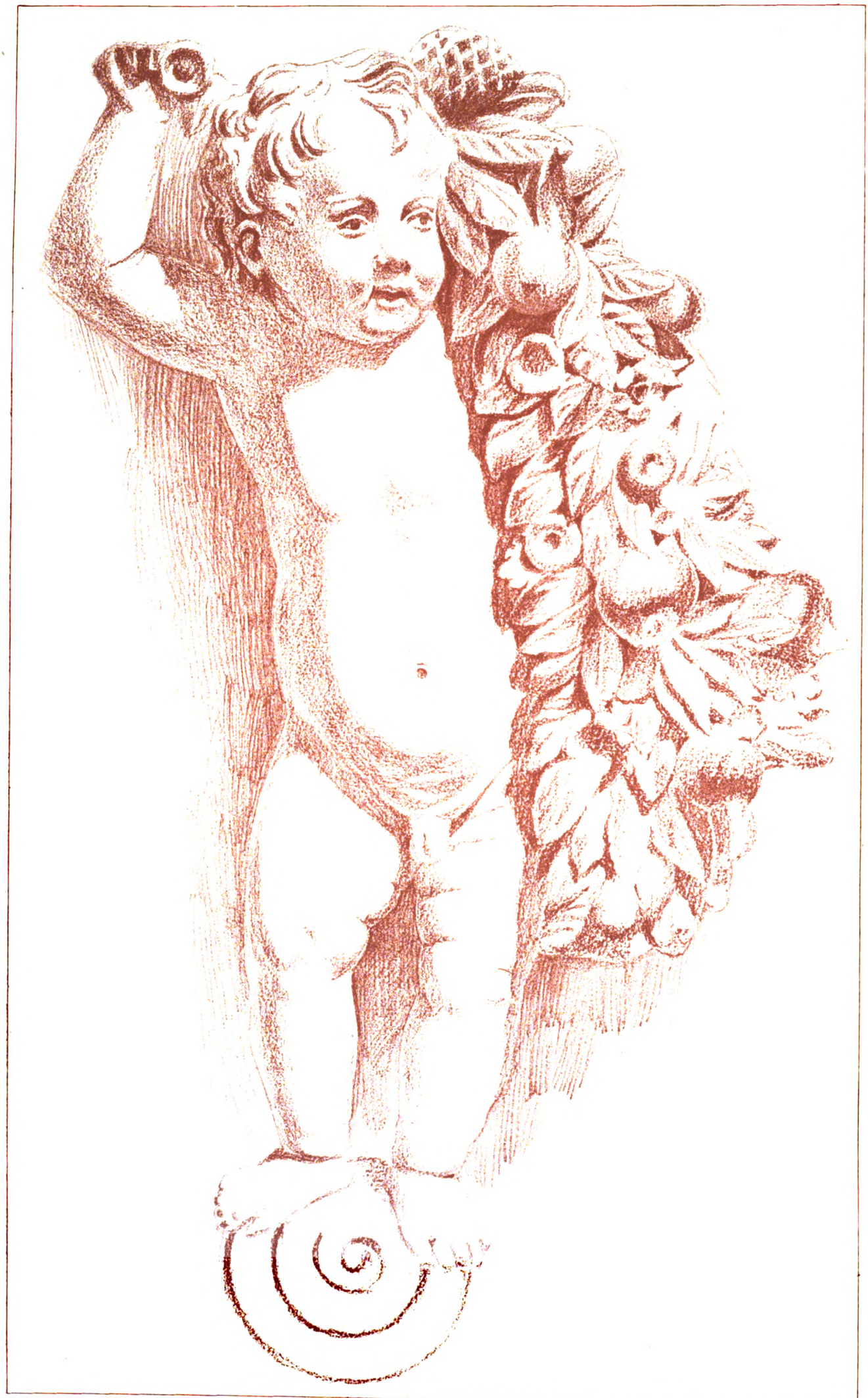
Exeter.—St. Thomas Parochial Hall (Sir Redvers Buller Memorial).

DURHAM.

Bishop Auckland.—Proposed County Secondary School for boys.

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"INK-PHOTO" SPRAGUE & Co LTD 69 & 70 DEAN STREET, SOHO, W.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

From Prize Drawing in Crayon by "PLATO."

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NEW PUBLIC OFFICES.-BOARD OF TRADE, &c.

View from the North East.



Conrad B. Willcocks A.R.I.B.A.
Architect.
Reading.
Dec. 1913.

PHOTO-LITHO. SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

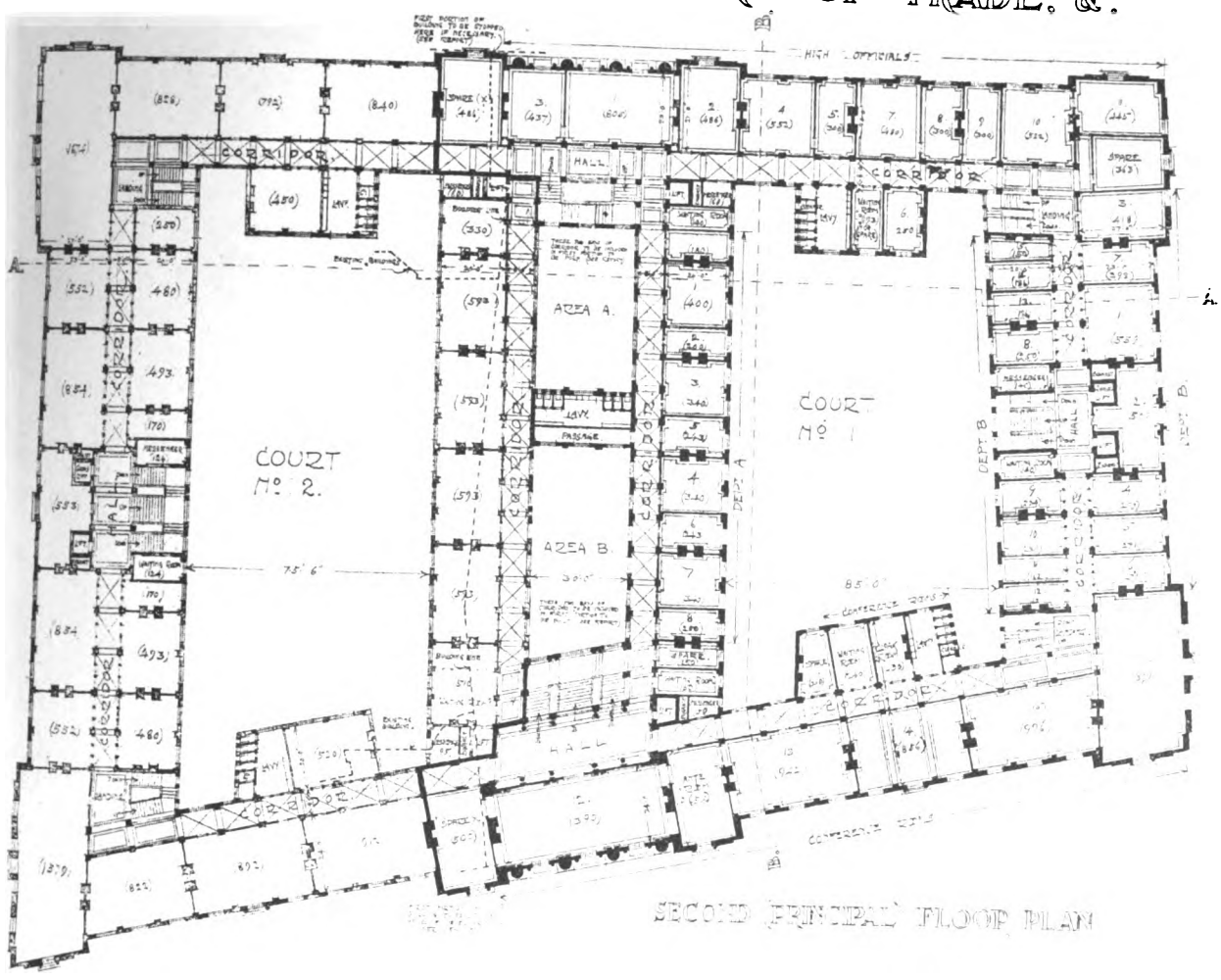
COMPETITION DESIGN

By Mr. CONRAD B. WILLCOCKS, A.R.I.B.A.

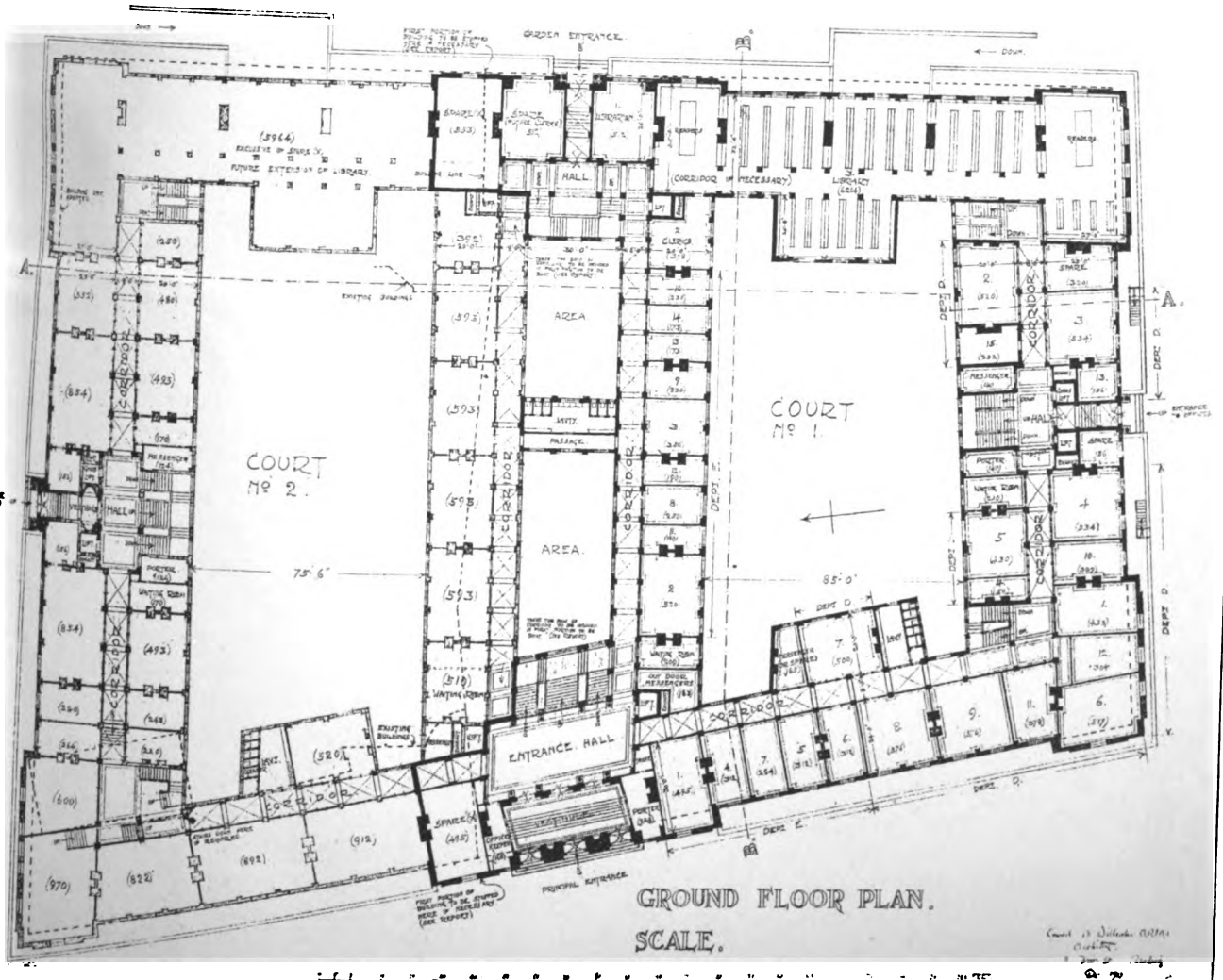
The Architect, July 3rd 1914.

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NEW PUBLIC OFFICES.-BOARD OF TRADE, &c.



SECOND PRINCIPAL FLOOR PLAN



GROUND FLOOR PLAN.

SCALE.

PHOTO-LITHO. SPRAGUE & Co LTD 69 & 70 DEAN STREET, SOHO, W

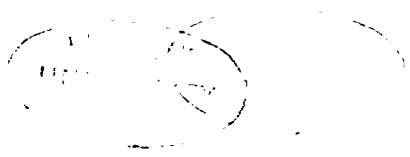
COMPETITION DESIGN

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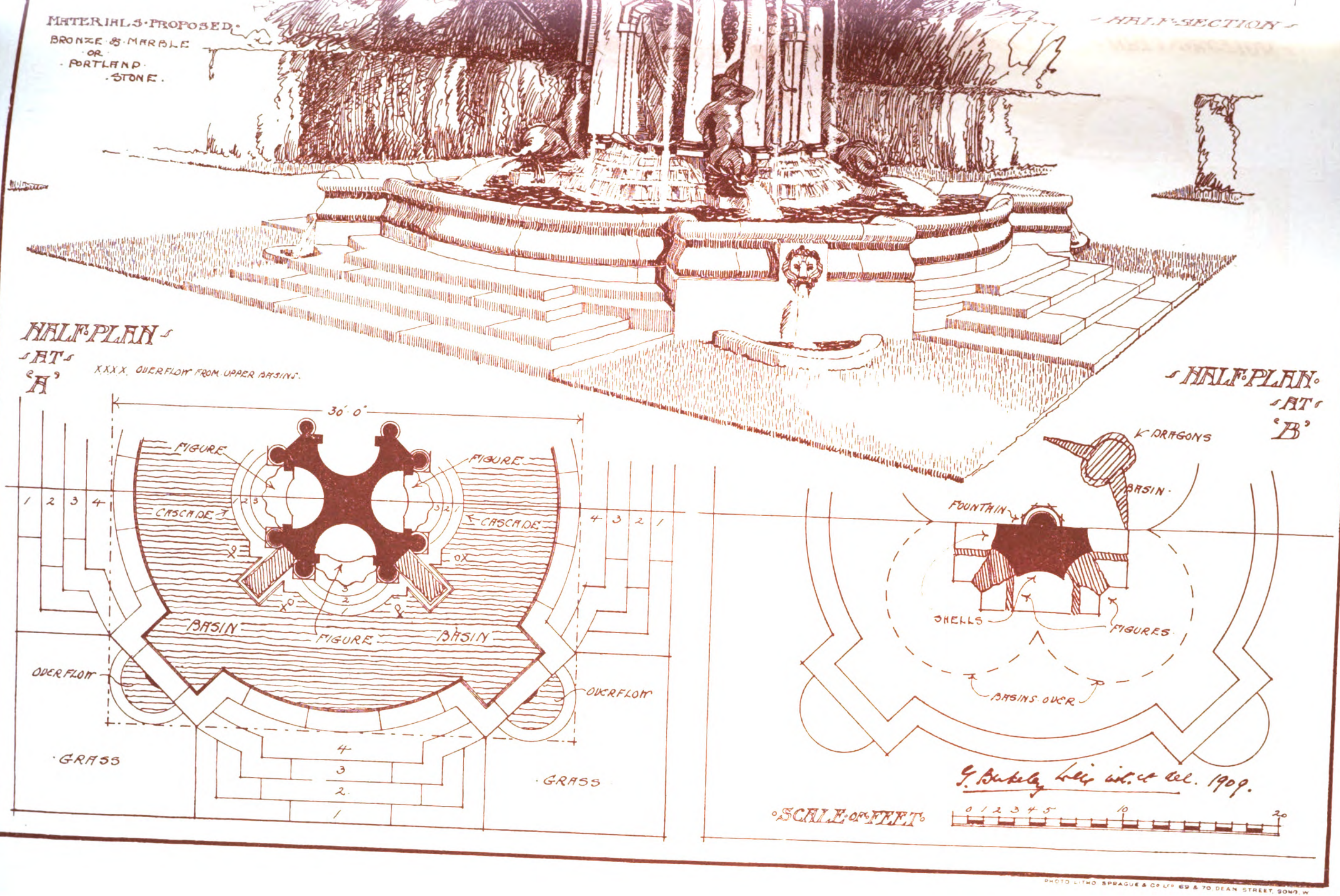


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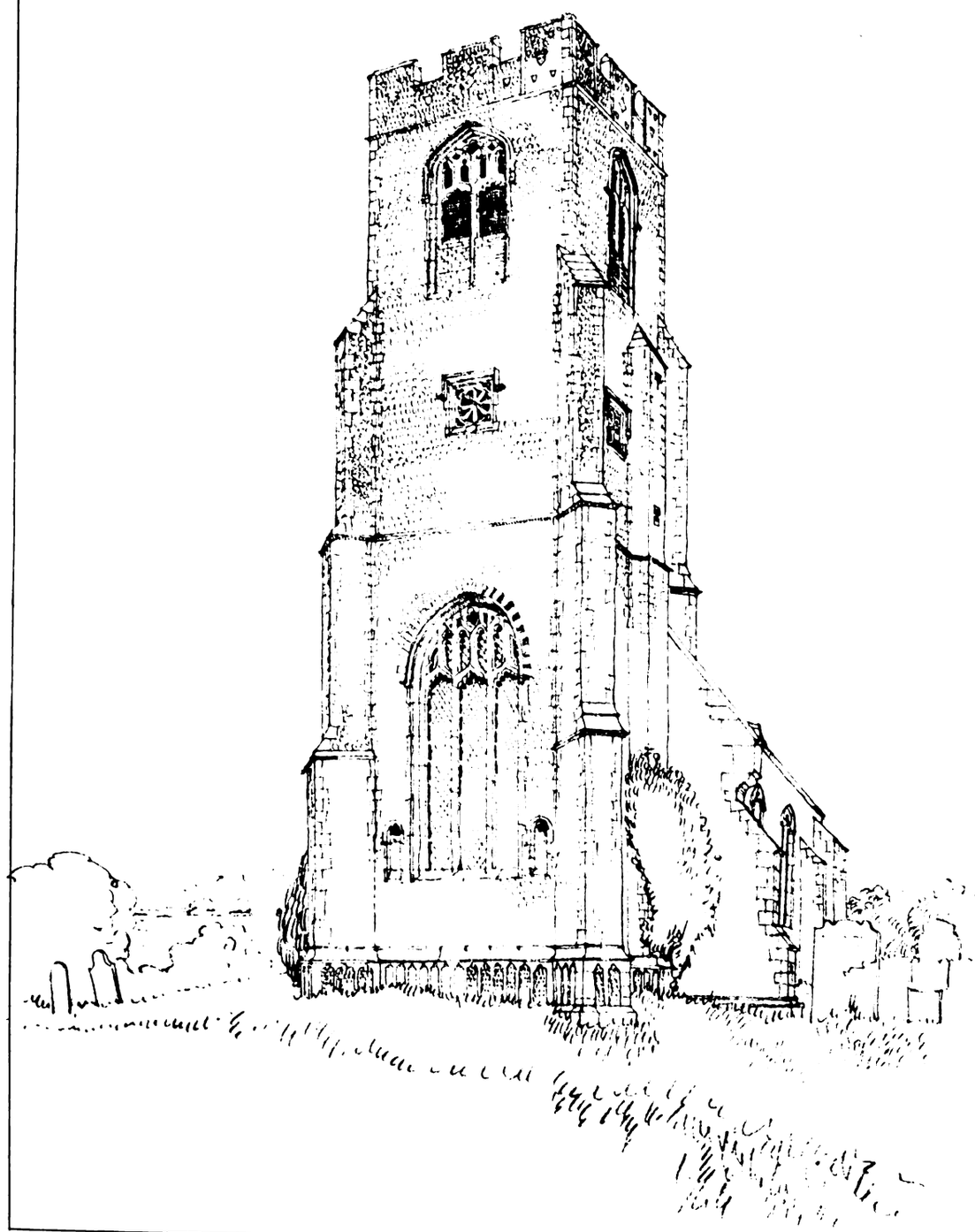
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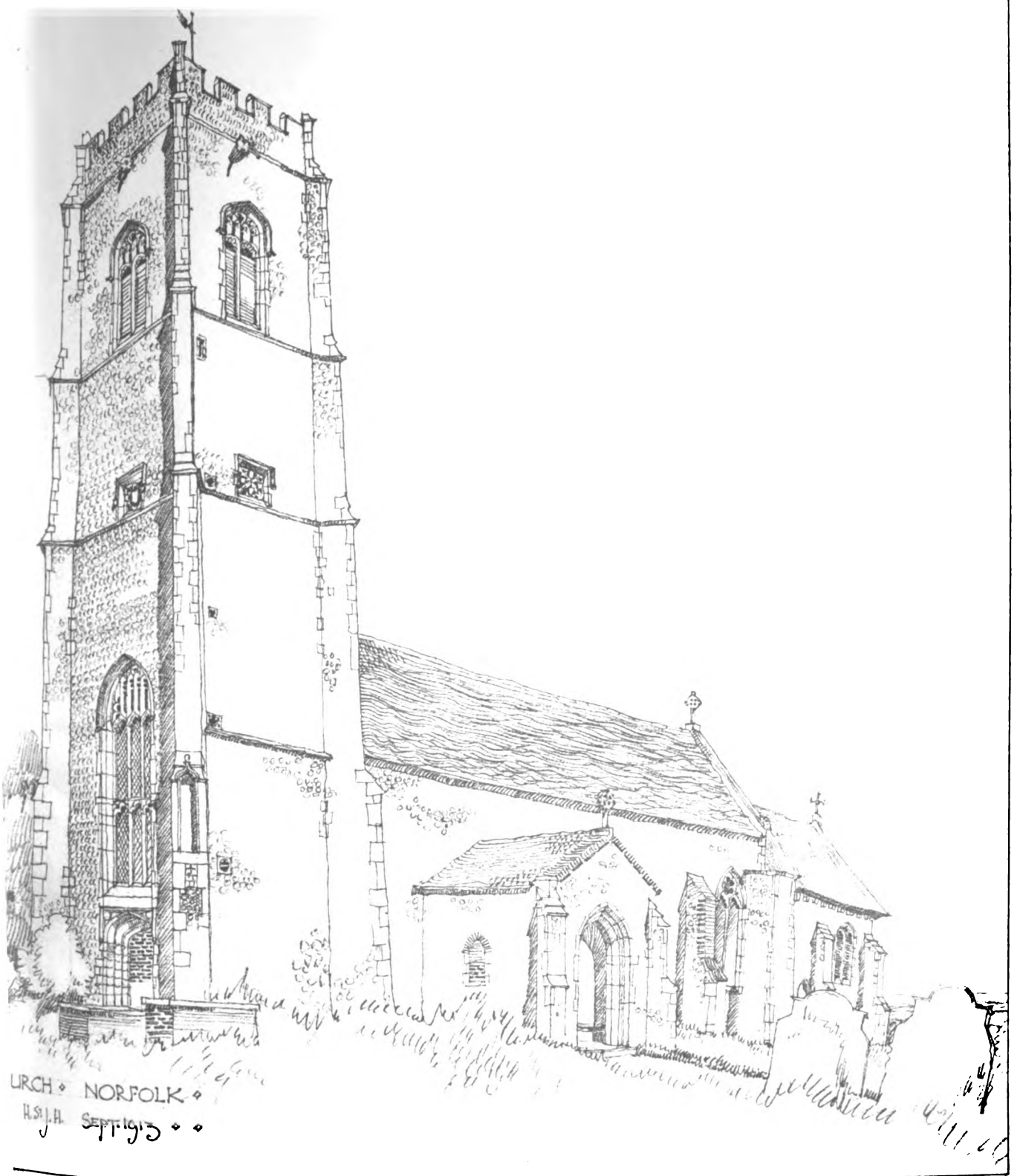
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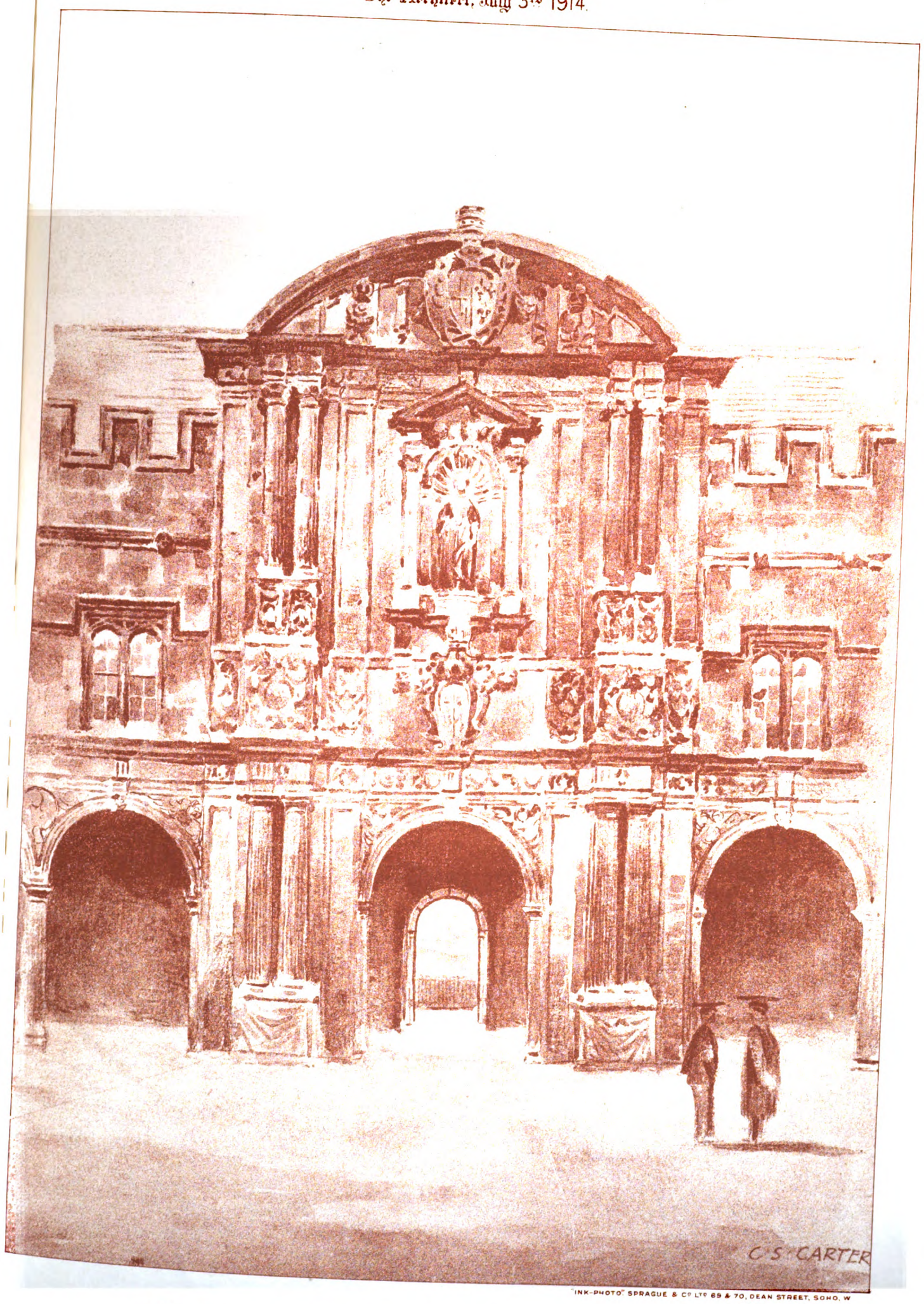
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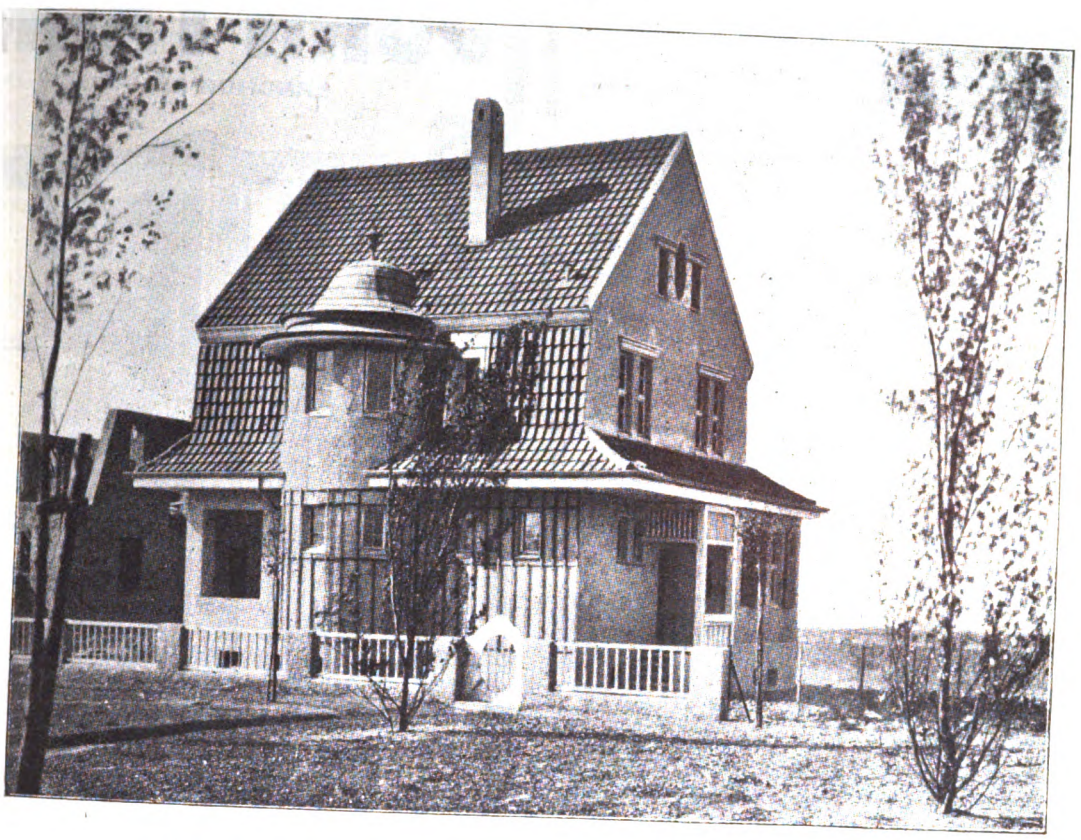
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ENGLAND—*continued.*

DURHAM—*continued.*

Houghton-le-Spring.—Children's Home, for the Board of Guardians.

ESSEX.

Barking.—Secondary School for 200 places.

Chelmsford.—House, Cedar Avenue, for Mr. W. Sharp.
House, Cedar Avenue, for Mr. W. Spender.
House, Swiss Avenue, for Mr. H. S. Murkin.
House, Waterhouse Lane, for Mr. H. C. Harris.
House, Goldlay Road, for Mr. C. Choat.
House and shop, Duke Street, for Messrs. Hawkes Bros.

Maldon.—Baptist Church. Mr. W. Hayne, architect, Connaught Avenue, Frinton-on-Sea.

Romford.—Secondary School for Boys.

Southend-on-Sea.—Westbury Council School, Macdonald Avenue: additions and alterations. Mr. P. Brockbank, architect, County Chambers, Weston Road.

West Thurrock.—Infants' School for 200 places (£2,700).

HAMPSHIRE.

Southampton.—Council School for 1,200 places.

KENT.

Beckenham.—Secondary School (for 200 places). Mr. W. H. Robinson, Education Committee architect, Caxton House, Westminster, London.

Gillingham.—St. Augustine's Church, Rock Avenue. Mr. Temple Moore, F.R.I.B.A., architect, 44 Bedford Row, London, W.C.

Margate.—Children's Hospital: rebuilding, for Metropolitan Asylums Board. Mr. T. W. Aldwinckle, F.R.I.B.A., architect, 20 Denman Street, London, S.E.

LANCASHIRE.

Clitheroe.—Theatre, Wellgate, for Mr. Kenyon (of Blackburn).
Two villas, Ribblesdale Avenue, for Mr. Haydock.

Preston (near).—Baptist Sunday Schools, Ashton-on-Ribble.

Radcliffe.—Premises, for Manchester and County Bank. Messrs. Mills & Murgatroyd, architects, 23 Strutt Street, Manchester.

St. Anne's-on-Sea.—Congregational class-rooms, lecture hall, &c.

Standish.—Two houses, Grove Lane, for Mr. J. Cheetham.
Three houses, Preston Road, for Mr. H. Baxter.

Todmorden.—Picture Theatre, Cornholme. Mr. J. E. Stott, architect, Bridge Street.

LINCOLNSHIRE.

Lincoln.—Lincoln and Lincolnshire Home for Girls, Carline Road: laundry (£1,300). Mr. H. H. Dunn, A.R.I.B.A., architect, St. Peter's Churchyard.

MIDDLESEX.

Harrow Green.—Church, Leslie Road.

NORTHAMPTONSHIRE.

Rushden.—Municipal houses (£8,000). Mr. W. B. Madin, Council surveyor.

NORTHUMBERLAND.

Alnwick.—Eighteen Council houses. Council surveyor.

Longhirst Old Colliery.—Ten miners' cottages, for the Aged Mine-Workers' Homes Association.

Newcastle-upon-Tyne.—St. Paul's parochial buildings (£2,350). Mr. A. B. Plummer, F.R.I.B.A., architect, 13 Grey Street.

STAFFORDSHIRE.

Burton-on-Trent.—Children's Home, for the Board of Guardians (£2,250). Mr. J. Holt, A.R.I.B.A., architect, 9 Albert Square.

Dudley.—Technical School. Mr. W. J. Nevett (of Stafford), County architect.

Willenhall.—Picture Theatre. Mr. A. E. Baxter, architect, 1 Walsall Street.

SUFFOLK.

Ipswich.—Children's Scattered Homes, Foxhall and Stradbroke Roads. Mr. J. A. Scheuermann, architect, 9 Northgate Street.

SUSSEX.

Brighton.—Council School, Middle Street: improvement (£2,100).

WARWICKSHIRE.

Birmingham.—Cinematograph Theatre, Digbeth, for Mr. H. Goodman.

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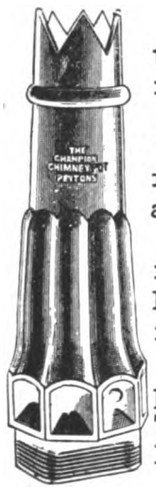
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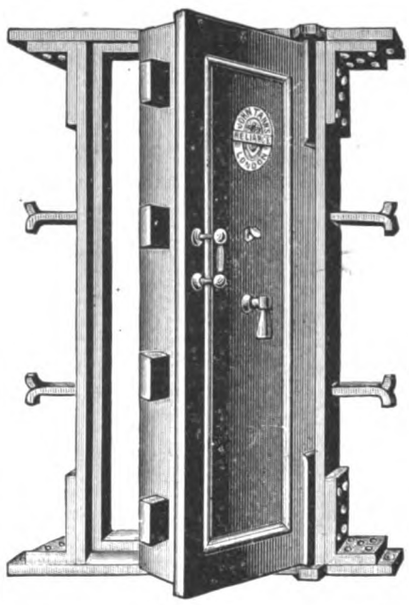
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ENGLAND—*continued.*

WARWICKSHIRE—*continued.*

Nuneaton.—Dairy, Temple House, Arbury, for Mr. F. A. N. Newdegate, M.P.

House, Princess Avenue and Bracebridge Street, for Mr. J. G. Thompson.

Two houses, Arbury Road, for the Nuneaton Co-operative Society, Ltd.

House, Church Road, for Mr. F. C. Wyman.

Four houses, Marlborough Road, for Mr. A. Watkins.

Girls' High School, Leicester Road: additions and alterations.

WILTSHIRE.

Salisbury.—St. Mark's Church: additions (£6,500). Mr. J. A. Reeve, architect.

WORCESTERSHIRE.

Bretforton.—Twenty cottages, for Evesham R.D.C.; also *Littleton.*—Council houses (£4,100).

YORKSHIRE.

Barnsley.—Infants' Council School, Agnes Road.

Brighouse.—St. Paul's Wesleyan Sunday School. Mr. A. G. Sladdin, architect, 39 Briggate.

Crigglestone.—Two villas, Calder Grove, for Mr. F. T. Waite.

Horby.—Village Hall.

Halifax.—Congregational Chapel, Highroad Well (for 500 sittings). Messrs. Glendinning & Hanson, A.R.I.B.A., architects, 15 Commercial Street. Separate trade contractors.

Knaresborough.—Children's Home (£2,000), for the Board of Guardians.

Knottingley.—House. Mr. W. J. Tennant, architect, Ropergate Chambers, Pontefract.

Maltby.—Institute. Mr. P. A. Hinchliffe, A.R.I.B.A., architect, 14 Regent Street, Barnsley.

Rawmarsh.—Wesleyan School.

Stanley.—Two houses, Bar Lane, for Mr. A. Baker.

Two houses, Newton Hill, Leeds Road, for Mr. F. Whitwam (of Outwood).

House and shop, First Avenue, Leeds Road, Outwood. Mr. W. Bagnall, builder, Eastmoor, Wakefield.

House, Aberford Road, for Mr. Thomas (of Park Lane, Wakefield).

Two houses, Bradford Road, Garden Village, for Mr. A. Francis.

Twenty-six houses, Wrenthorpe Garden Village, for Mr. W. Bell (of Wakefield).

Thorpe Hesley.—Council School (for 550 places), for Rotherham Education Committee.

WALES.

Clwtybont and Ebenezer.—Thirty-six workmen's dwellings.

Swansea.—Cold Storage buildings, King's Dock, for the Harbour Trustees.

Letricheux Buildings, Adelaide Street. Mr. J. S. Andrew, architect, Chancery Chambers, Rutland Street.

St. Joseph's R.C. Boys' School (£5,000). Mr. G. E. T. Laurence, A.R.I.B.A., architect, 22 Buckingham Street, Adelphi, London. Messrs. D. Davies & Sons (Talybont-on-Usk), contractors.

Training College: rebuilding for 600 places.

SCOTLAND.

Altnagourach.—Four workmen's houses, for the Highland Railway Company. Mr. A. Newlands, chief engineer (Inverness).

Clydebank.—Two villas, Montrose Street (£1,600), for Mr. B. C. Maitland.

Edinburgh.—Craiglockhart Poorhouse: additions and alterations. Mr. R. M. Cameron, architect, 53 Great King Street.

Technical class-rooms and workshops, Bellevue, for the School Board.

Glasgow.—Belhaven U.F. Church: additions and alterations to Hall, Dundonald Road, for the Trustees.

Eight houses, South Avenue, Newlands. Mr. J. Allan, builder, 565 Cathcart Road.

Four tenements of houses, Strathcona Drive, Anniesland, for Mr. C. Halley.

Additions and alterations, Washington Street, Govan, for the Household Washing and Laundry Co.

Hamilton.—Stables, Whiteford's Orchard, for the Cleansing Department.

Irvine.—Grain Store, Office, &c. (£1,000), Quarry Lane, for Mr. John Anderson.

Lockerbie.—Public Slaughterhouse (£1,500). Mr. J. B. Gladstone, architect, 61 High Street.

Paisley.—Hall, Castle Street, for the Trustees of the Paisley and District Loyal Orange Lodge (No. 6).

Three-storey tenement for shops and houses, Broomlands Street. Messrs. G. & T. Houston, builders, 5 Maxwellton Street.

Pollokshaws.—School.

Port Glasgow.—Electricity Station, for the Clyde Shipbuilding and Engineering Company.

IRELAND.

Dublin.—Bewley's "Oriental Café," Westmoreland Street: additions and alterations. Messrs. Millar (F.R.I.A.I.) & Symes, architects, 39 Kildare Street.

Kiltimagh and Swinford.—Forty-nine labourers' cottages, for the R.D.C. of Swinford.

PATENT SPECIFICATIONS.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 9,505. April 22, 1913.—Dated under International Convention December 17, 1912. D. J. Hurley, Market Street, Sale, Victoria, Australia. Controllers for doors and like movable structures.

9,806. April 26, 1913.—S. H. Goldberg, 1732 Michigan Avenue, Chicago, U.S. Production of roofing and similar material.

11,876. May 21, 1913.—Julius Elsner, 74 Kaiserallee, Berlin-Friedenau, Germany. Process for making cement and the like from the residues resulting from the burning of and extraction of gas from household and street refuse, sewage sludge, and the like.

12,319. May 27, 1913.—W. A. Wilson and Hamilton Davies, Carlton Works, Armley, Leeds. Burners for gas fires.

12,320. May 27, 1913.—C. H. Palmer, Broad Street, March, Cambridge. Acetylene-gas burners.

13,412. June 10, 1913.—C. W. Ferrier, architect, 11 Waterloo Place, Pall Mall, S.W. Valves for ventilation.

13,500. June 11, 1913.—John Young, R.N. Retired, 19 Fair View Avenue, Clontarf, Dublin. Ball cock.

15,599. July 7, 1913.—L. W. Holloway, 6 Cherry Tree Row, Fleetwood, Lancs. Charge containing receptacles of acetylene-gas generators.

16,371. July 16, 1913.—William Gates, The Cottage, Kildorrery, Cork. Roofs of buildings.

18,190. Aug. 9, 1913.—Peter Geltz, Hayingen, Lotheringen, Germany. Fixing hooks or projections in walls or like surfaces.

23,702. Oct. 20, 1913.—Firm Siemens-Schuckert Werke G.m.b.H., Askanischer Platz 3, Berlin. Double-walled cooking ovens.

23,912. Oct. 22, 1913.—Sidney Napper, 9 Fenchurch Street, E.C. Cocks and valves.

26,008. Nov. 13, 1913.—G. M. Lewis, Merridale Cottages, Harrison's Road, Edgbaston. Adjustable splasher, table top, and complete rack for cooking ovens.

26,079. Nov. 13, 1913.—Alexander Finkler, 13 Miasnitzkaja, Moscow. Treating damp porous bodies, especially stonework and plaster.

27,023. Nov. 24, 1913.—James Middlehurst, Westby Villas, Carleton, Poulton-le-Fylde, Lancs. Bricks for the purpose of buildings.

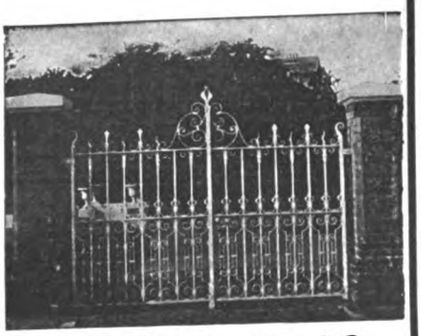
27,045. Nov. 24, 1913.—Dated under International Convention Nov. 25, 1912. Aktiebolaget Lux of Lilla Essingen, Stockholm, Sweden. Fire-extinguishing apparatus.

27,280. Nov. 26, 1913.—R. Waygood & Co., Ltd., Drummond Bone, and R. F. Carey, all of Falmouth Road, Great Dover Street, S.E. Vacuum cleaner.

28,894. Dec. 15, 1913.—F. T. Woodward, 14 Place de Meir, Antwerp, acting for the Western Electric Company, 463 West Street, New York, U.S.A. Vacuum lightning arresters.

30,028. Dec. 31, 1913.—Dated under International Convention May 8, 1913. Erich Offermann, Buchel 51, Aachen, Germany. Self-acting grinding and polishing machines movable on the surface that is to be treated.

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1,900. Jan. 23, 1914.—Dated under International Convention Jan. 24, 1913. Dr. Bruno Bauer, Mariahilferstrasse 51, Vienna VI, Austria. Reinforced-concrete constructions.

5,324. March 2, 1914.—William Guest, 42 Mayhill Road, Charlton, S.E., and Hugh Lenox, "Garthowen," Ashstead, Surrey. Manufacture of tanks.

6,086. March 10, 1914.—Dated under International Convention Feb. 17, 1914. J. H. J. Bruning, Tengelre, near Eindhoven, Holland. Manufacture of built-up or several-ply slabs of wood.

6,230. March 12, 1914.—A. E. Lake, and Lake & Elliot, Ltd., Albion Works, Braintree, Essex. Cranes.

8,690. Sept. 5, 1913.—Badische Anilin & Soda Fabrik, Ludwigs-hafen-on-Rhine. New compound suitable for use in the manufacture of pigments.

8,705. April 6, 1914.—A. R. P. Hickley, 113 London Road, Chelmsford, Essex. Construction of window-blind cord pulley.

2,784. Feb. 3, 1914.—Samuel Saunders, 43 Lower Mosley Street, Manchester. Air valves for heating radiators.

12,908. June 4, 1913.—Albert Lee, 66 King's Road, Old Trafford, Manchester. Draught inducing devices for chimneys and like conduits.

13,018. June 5, 1913.—J. T. Johnson, 37 Great Ancoats Street, Manchester. Manufacture of tile kerbs, hearths, ashguards, and the like.

13,039. June 5, 1913.—Edmond Fauvel, 39 Boulevard Saint-Martin, Paris. Acetylene generator.

13,851. June 16, 1913.—Robert Kennedy, of Glenfield & Kennedy, Ltd., Kilmarnock, Ayr. Water meters of the positive type.

14,809. June 26, 1913.—Robert Green, "Albert House," Oldbury, Worcs. Washer for corrugated sheet roofing and the like.

15,689. July 8, 1913.—F. C. Jones, Reliance Rubber and Hardwood Co., 216 Upper Thames Street, E.C. Composition washer or valve for taps or valve seatings.

17,420. July 29, 1913.—I. R. Glaskin, 26 Ladbroke Square, W. Apparatus for burning town refuse.

18,400. August 13, 1913.—Albert Higgins and Scudamore Griffiths, 21 Orchard Street, Portman Square, W. Electric light ceiling fitting fitted with a special device to facilitate the fitting or removal of a glass or alabaster bowl or metal reflector.

18,584. August 15, 1913.—J. H. Clarke, 4 Sumner Terrace, Onslow Square, South Kensington. Acetylene generators.

19,195. August 25, 1913.—Leopold Myers, of Charlotte Street Steel Pen Works, Charlotte Street, Birmingham. Manufacture of drawing compasses and dividers.

Any of the above specifications may be obtained from J D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The Architectural Staff of H.M. Office of Works.—The Report of the Holmes Committee.

SIR,—The recommendations of this Committee show all the way through a tinkering with the organisation, such as the reduction of the architectural staff by a branch and the change from one principal architect to three. There is no real grasp of vital principles, except perhaps the recommendation that the whole of the staff of the Office of Works should be brought together into one building, and to have come to this conclusion should not have required the combined wit of the Chairman of the Board of Works, Dublin, with a salary of £1,500, the Assistant Secretary of the Office of Works, London, with a salary of £1,100, and a first-class clerk in the Treasury. One recommendation stamps the remainder of the report at its true value, a concoction by an engineer and two laymen bent on cutting down expenses at all costs. It is worth quoting in full.

"*Architectural Assistants, Draughtsmen, and Technical Assistants.*—All members of these classes, including those engaged upon purely technical work other than drawing, to be brought together, as soon as conditions of accommodation permit, into one central drawing office in charge of a first-class assistant architect and surveyor assisted by qualified architectural assistants" (page 29, xviii.).

"With the principle laid down when the scheme was introduced, viz., that in future the drawing office should as a rule be manned by young men temporarily serving in the office and discharged at the age of thirty, we are in general agreement, though we doubt whether that age is not too advanced" (page 19, para. 79).

So it is proposed that a gentleman with a salary of from £350 to £450 shall be the real principal architect for half a million worth of new work yearly, while there will be three office of works principal architects with salaries from £800 to £1,000, and nine architects at salaries from £550 to £750. Whether the designing of new works is to be divorced from the supervision of them is not clearly stated. If it is not, the only work left for the architects will be that of maintenance surveyors in charge of painting, whitewashing, chimney-sweeping, and window-cleaning. If it is, the result will be chaos.

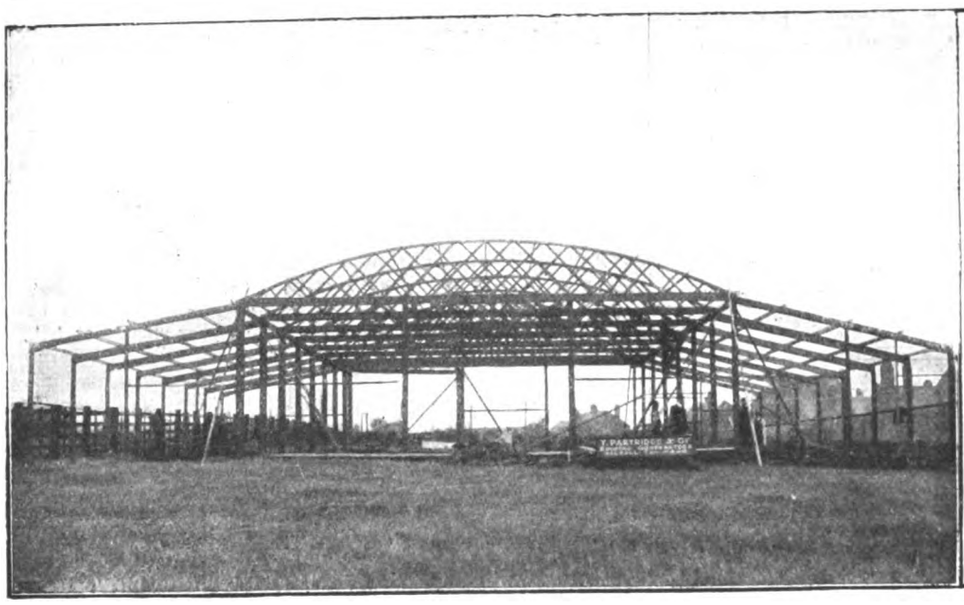
One can imagine our foreign visitors being taken, as one of the sights of London, into a magnificent hall some 250 feet by 50 feet to see official architecture being "turned out." Another step forward to the Ministry of Fine Arts! The process will be somewhat as follows. The "principal architect" with the salary of £350 to £450 will every morning call on the heads, for the future misnamed architects, of the different branches for orders. Orders by post and telephone will also be promptly attended to. Amid the din and confusion of that vast hall he will then proceed to allocate the work; the plan of a Labour Exchange will be given to a young man of twenty-three, the elevation of a Government Office to the Neo-Grec expert of twenty-seven, while a new Consulate at Timbuctoo will be given to the junior of eighteen years, as the professional papers will not be able to criticise that work of art.

But what understanding of architecture can one expect from an engineer, however eminent, and two lay officials? Point is given, by the memoranda at the end of the report, to this lack of understanding due to the composition of the Committee. Where the engineer, as a technical man, really makes a good suggestion—that the technical side should be represented on the Board—the two lay officials, with the conceit of their class, unite to crush it, for to their minds a lay board is perfectly capable of appreciating technical differences and of settling difficult technical problems. So with architecture; only here, of course, the lack of understanding is trebly intensified. Later, after another eminent engineer has sat in committee, it will be found more economical to have sheets of stock features from which elevations may be set up mechanically after the different types have been specified by number.

The whole report is wordy and indefinite, and not always grammatical. The employment of the private practitioner on new works is to be decided by the circumstances in each case, the circumstances being the nature and position of the building, the talent at the disposal of the office, and the amount of work in hand. There is therefore small hope for the private practitioner. By the time Government officials have acquired enough modesty to decide that they have not sufficient talent, the present generation at any rate will have passed away. It is something that it is recognised that it requires talent to design buildings. Who does the designs does not appear. As "the design and supervision of new buildings . . . occupies (sic) a comparatively subordinate place in the work of the Board's architects" (para. 26), and the assistant architects (paras. 54-61) and technical assistants (para. 70) are not mentioned as performing either of these important functions, while the duties of draughtsmen "are confined to drawing, though some prepare specifications and a few are employed now and then to make minor surveys," it is difficult to see how the architectural work of the office is done. Perhaps, as with the man in the street, the Committee (one engineer and two laymen) view an architect's principal work as "drawing."

The present discontent of the temporary staff is admitted and minimised. The cause of it is said to be the fact that the established and unestablished officials in many cases perform the same duties, and the remedy recommended is an increase of twenty-seven posts in the established architectural assistant class. Seeing that this class was only created nine months before the date of the report, and even less time before the investigation of the Committee, it may be safely affirmed that the discontent, which, as the report says, "has been serious in the past," does not arise from

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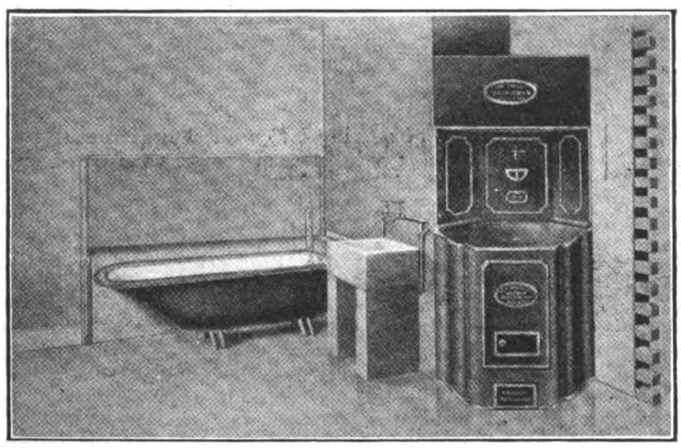
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the fact that the temporary staff perform the same duties as the established architectural assistants. The remedy proposed is therefore no remedy, but only a palliation, or rather a soporific, for once in that class all hope of further promotion has gone. One cause of the discontent is probably the opinion of their status held by the lay governing officials of the office, as illustrated by the travestied account of draughtsmen's duties quoted above. There is an ominous resemblance between the name of this report and another now famous one, Holmes, Holt; Holt, Holmes. As Mr. Ramsay Macdonald said with reference to the other, "It was against the best interests of the country to allow grievances to accumulate until strikes were threatened or until agitation became hot and furious, and unreasonable pressure was exerted" (*The Times*, June 11, 1914). It would seem as if the Holmes Committee by their recommendation of a central drawing office were bent on affording every facility for such courses.

A.R.I.B.A.

The London Building Trade Dispute.

SIR,—Certain interested parties seem to have given free rein to their imagination in disseminating through the labour Press detailed descriptions of disputes and antagonism within the ranks of the London Master Builders' Association.

These statements have hitherto been ignored, but lest the public or the workmen in particular should be misled or deceived, I beg to claim your indulgence to state that all such representations are not only inaccurate, but I fear wilfully so, and there is no foundation whatever for such malicious reports.

Both at the meetings of the Council and at the general meetings of this Association all decisions have been practically unanimous, and there has been no conflict or antagonism whatever; in fact, it is difficult to imagine how any dissensions could arise on the particular points at issue.

Much misconception also apparently exists as to the attitude of the London Master Builders' Association towards trade unionism. It has been represented that the L.M.B.A. desires to secure the advantage of employing non-unionists at lower wages than trade unionists, and that for this or some other reason favour or preference is shown to non-unionists, and endeavours are made to check the propagation of trade unionism, which is resented by the trade unions.

In order to remove any such erroneous ideas a statement of the principles which guide the L.M.B.A. on this subject may be of service at the present juncture.

The L.M.B.A. offers no objection to the fair and peaceful propagation of trade unionism. That is to say, that the unionist workman should be quite at liberty to impress upon his fellow workmen his arguments and views on trade unionism (and *vice versa* the non-unionist should be at liberty to do the same) provided, of course, that such discussions do not interfere with the progress of work.

The L.M.B.A. objects only to coercion and persecution being exercised on either side and cannot consent to any of their workmen being driven from employment or maltreated because of the attitude they may see fit to adopt on the question of trade unionism.

The L.M.B.A. shows neither favour nor prejudice on either side; both are equally eligible for employment; *both are paid the same rate of wages, and work under the same terms and conditions* as to hours of labour, overtime, &c.

If by fair and reasonable argument the trade unionists can convert all non-unionists to their views, and by such means the non-unionists were eliminated, the L.M.B.A. would accept the situation with equanimity. They stand for "fair play and no favour," and any representations to the contrary are both unjustifiable and incorrect.—Faithfully yours,

S. B. DEPREE, Secretary.

Timber Rot Fungus.

SIR,—I have read with great interest the above article on pages 629-32 of your issue of June 26 by James Scott, and must say that the present *legal* position of architects in the matter is an extremely harassing and unsatisfactory one, as every architect is exposed to the possibility of having an action brought against him and being placed in the position of having to pay heavy damages when he has exercised what he considers to be reasonable care in the performance of his duties. This has been proved by recent law actions.

I am certain that architects do not realise the danger which accrues from the use of *dead-wood*. Nothing has been done in this country to investigate the matter of dry rot except the little leaflet issued by the Board of Agriculture and Fisheries about nine years ago and revised four years ago; and in that circular it is suggested that if the affected wood were thoroughly seasoned the mycelium would be killed. I have proof that this is an erroneous suggestion.

I have spent some years in investigating dry rot, and I have written many newspaper columns of matter on this difficult problem. I have come across cases where floors have had to be taken up because they have rotted through dead-wood being used. I can point to many cases of dry rot which are emphatically due to the use of dead-wood.

A builder said to me some time ago that a stack of timber that he had just got in was the best he had ever had, because not only was it free from knots, *but there was not a particle of sap in it*. He said it was almost too good to use for joist. It was only my emphatic knowledge of this wood that could convince him that he was using dead-wood. Indeed, it is not surprising that many builders are entirely ignorant of this inferior wood. Apart from the question of the reddish hue, there is nothing but the light weight of the wood to distinguish it from good timber.

What the British public require guarding against is the ignorant builder who uses dead-wood unknowingly; the cottage builder who puts up "jerry houses" and does not care what he uses; and the timber merchant who deceives his customers and sends them dead-wood when they think they are buying good sound timber.

For these reasons I maintain that a Parliamentary Act should be passed prohibiting the use of dead-wood or diseased timber.

At one time I thought it might be cut into thin slabs for making packing-cases, but since, I am so convinced of the contagious nature of the disease that I would prohibit the smallest piece from coming into this country.—Yours faithfully,

J. H. KERNER-GREENWOOD.

King's Lynn: June 30.

Building Depression

SIR,—The Chancellor of the Exchequer would like to persuade the country that the 1909 Budget land taxes, for which he is personally responsible, are not the chief cause of the depression in the house-building industry.

He recently stated to a deputation of slate-quarry workers that the depression which has so seriously affected their trade was due to overbuilding before 1903. In his endeavour to placate the slate workers, he is reported to have said that the Government was about to embark on great housing legislation, and that the building trade had immediately in prospect the greatest period it had enjoyed for many years. This is probably the best commentary upon the former statement that the depression was due to overbuilding. But if the building depression is due to overbuilding, how is it that the Government are embarking on great housing schemes owing to the shortage of houses? The depression in the building trade is not due to houses not being wanted. It is not due to overbuilding. It is mainly due to the fact that the house-builder has been crushed out of existence by recent legislation.

The builders (those who have survived the crisis) have to face, in many cases, an extra income tax of 4*s*. in the pound on a portion of their legitimate profits, in the shape of increment value duty. They are also unable to obtain advances to carry on their trade. Buyers are equally affected, and cannot obtain advances to purchase except at a prohibitive rate of interest.

Small investors have been frightened by unjust and illegal claims that have been made under the Budget taxes, and no longer invest their savings in house property.

The growing shortage of housing accommodation, and the overcrowding accentuated by it, is in many districts little short of a public scandal.

Circumstances have no doubt aggravated the situation, and in addition to the Budget land taxes, prices of materials have risen, wages in the building trade have increased, and the cost of building is to-day far higher than it was in 1909. But the continued effect of ill-considered legislation, combined with natural economic causes, has proved disastrous.

It is an open question, indeed, as to how far the legislation of the past six years is not also the main cause of the great rise in prices. The result, however, is a house famine, the extent of which is hardly yet appreciated by the country.

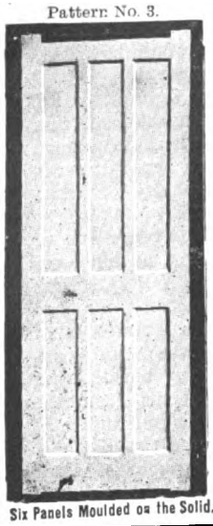
It is thoroughly characteristic of the Chancellor of the Exchequer to tell the slate workers that there has been overbuilding, just at the moment he announces a great scheme of State house building, because houses are so badly wanted.

C. H. KENDERDINE,
Secretary to the Land Union.

London, June 24.

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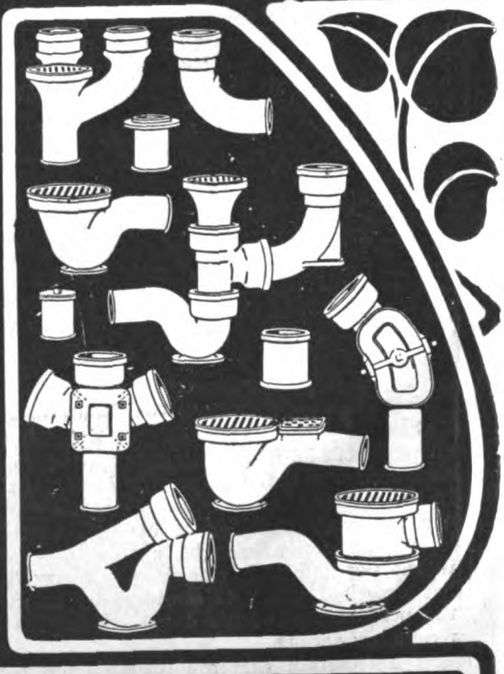
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THE ARCHITECT

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FORTHCOMING EVENTS.

Saturday, July 11.

International Garden City Congress : First Meeting at the Hampstead Garden Suburb.

Monday, July 13.

British Archæological Association and Kent Archæological Society : Joint Congress opens at Canterbury (July 13-18).

Tuesday, July 14.

Royal Archæological Institute : Summer meeting opens at Derby (July 14-22).

Wednesday, July 15.

Royal Institute of Public Health : Annual Congress opens in the University of Edinburgh (July 15-20).

Friday, July 17.

Architectural Association : Annual Prize Giving, at 2.30 P.M.

Architectural Association Camera, Sketch, and Debate Club : Excursion to Bayeux and District (July 17-31).

MORE REGISTRATION.

NOT only is there now before Parliament the Bill for the registration of architects promoted by the Society of Architects, but the present session has seen introduced the Auctioneers and Estate Agents' Registration Bill—"A Bill to provide for the establishment of a Register of Persons practising as Auctioneers or Estate Agents dealing with real estate, and for other purposes connected therewith." In the preamble it is set forth that "The object of the Bill is to establish a register of persons dealing professionally as auctioneers or estate agents with real estate, and to prescribe the qualifications for admission to the register"; further, "The Bill proposes, after the expiration of a period which will enable duly qualified persons to be entered on the register, to prohibit unregistered persons (with certain exceptions) from acting professionally as valuers or auctioneers of land or buildings, but it does not seek to impose any restrictions upon the right of an unregistered person to carry on the other branches of the business of an auctioneer or estate agent."

Now inasmuch as every time an architect in the usual practice of his profession issues a certificate for payment of money to a contractor for work done either during the erection or at the completion of a building, he acts professionally as valuer of a building, it would appear that unless he is included within the "certain exceptions," he could, if the Bill became law, no longer perform the duties usually rendered by an architect, unless he were a "registered auctioneer" or a "registered estate agent." Not only is an architect a valuer of buildings when he grants a certificate for payment to a builder, but the schedule of charges of the Royal Institute of British Architects recognises that the valuation of real property for advances upon mortgage and other purposes is work that may properly be undertaken by members of the Royal Institute.

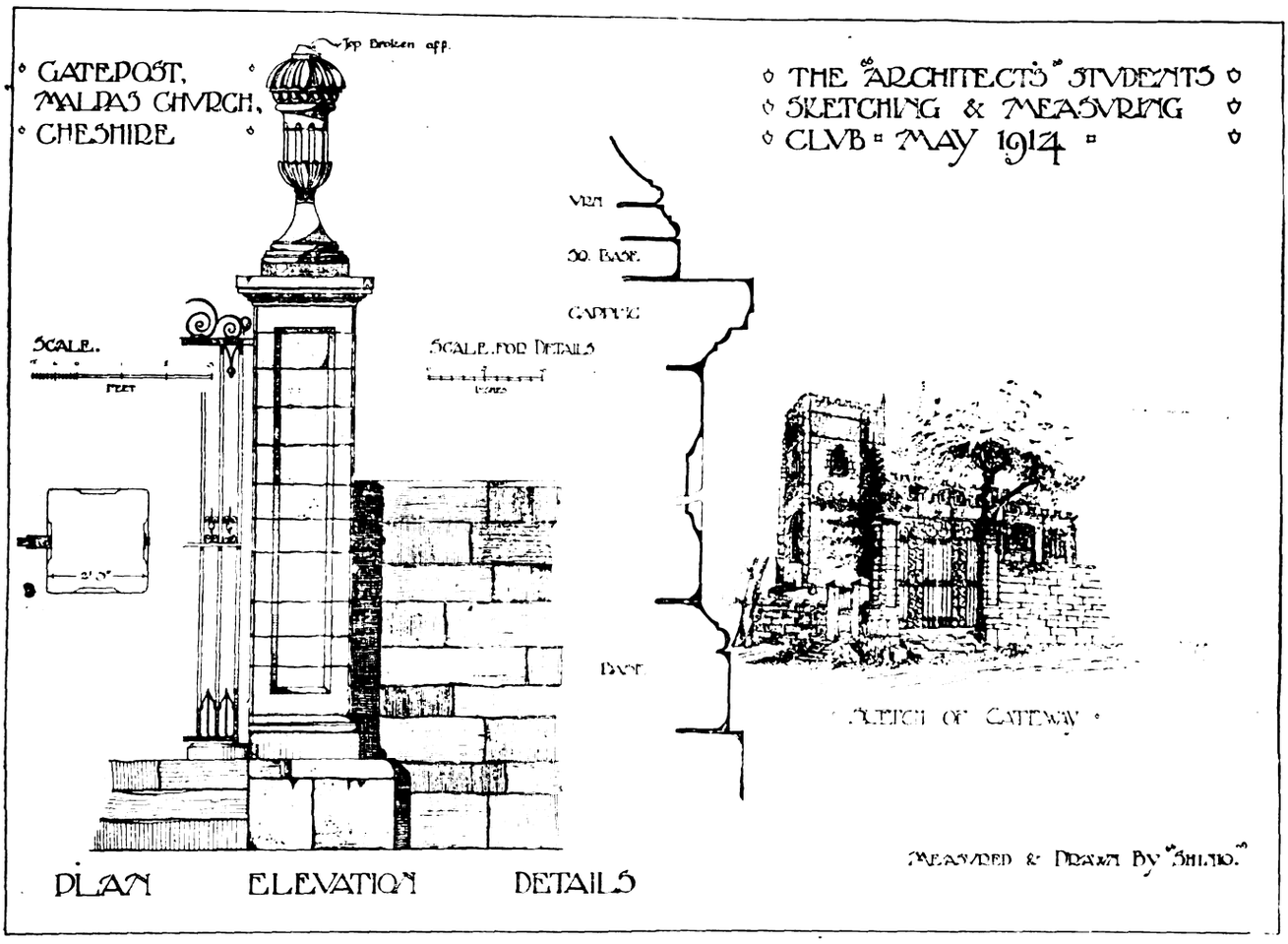
It is therefore important to examine the "certain exceptions" provided for in the Bill. These are set out in Section 41 of the Bill, which reads: "Nothing in this Act shall be construed as prohibiting—(*a*) any person for the time being entitled to practise as a solicitor or writer to the signet from performing any function or exercising any power which, if this Act had not been passed, he might lawfully have performed or exercised as such solicitor or writer to the signet; or (*b*) any person for the time being a fully admitted member or an associate (other than an honorary member) of any of the societies or bodies specified in the schedule to this Act from performing any function or exercising any power which, if this Act had not been passed, he might lawfully have performed or exercised as an accountant or an architect or an engineer (as the case may be); or (*c*) any person not being an auctioneer or estate agent from performing any function or exercising any power which, if this Act had not been passed, he would have been entitled to perform or exercise under the express authority or direction of any public or private Act, or as rendering any such person liable to any proceedings or to the payment of any fine for performing any such function or exercising any such power."

Thus we see that the "certain exceptions" are those entitled to make valuations or to sell by auction under some other Act; solicitors and such accountants, architects or engineers as belong to certain specified societies, which are set out in the schedule attached to the Bill as the Institute of Chartered Accountants in England and Wales, the Society of Accountants in Edinburgh, the Institute of Accountants and Actuaries in Glasgow, the Society of Accountants in Aberdeen, the Institute of Chartered Accountants in Ireland, the Society of Incorporated Accountants and Auditors, the Royal Institute of British Architects, the Society of Architects, the Institution of Civil Engineers, the Society of Engineers (Incorporated).

We need not trouble about accountants and engineers, though there are many members of both professions who do not belong to the societies included in the schedule, but we would point out that, if this Bill becomes law, no architect who is not a member of either the Royal Institute of British Architects or the Society of Architects would be allowed to make a valuation of real property, land or buildings, "for or in consideration of any payment or other remuneration, whether monetary or otherwise," unless he were a registered auctioneer or a registered estate agent. There is a large number of architects who are not members of the Royal Institute of British Architects or the Society of Architects, and all of them have to make valuations of buildings in the ordinary course of their practice, and many make valuations of real property for mortgage and other purposes. These therefore are vitally affected by the proposed Bill.

The registering body under the Bill is a board composed of three members to be appointed by the President of the Board of Trade, six members of the Auctioneers' and Estate Agents' Institute of the United Kingdom to be elected by the Institute, six members of the Surveyors' Institution to be elected by the Institution, and three or six possible co-opted members to be elected by the other members, "if they so determine."

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The persons entitled to be registered under the Act are: "(*a*) All persons who are at the commencement of this Act or (except as by this Act otherwise provided) shall thereafter become fellows or associates of the Institute" (*i.e.* Auctioneers and Estate Agents' Institute) "or fellows or professional associates of the Institution" (*i.e.* Surveyors' Institution); "(*b*) any person who, although not possessing any such qualification as is referred to in paragraph (*a*) of this subsection, shall within three years of the passing of this Act make application in writing to the registrar to enter his name in the register, and, within six months of the date of his application, proves to the satisfaction of the board that he was, either on his own account or in partnership with others, in public practice at the date of the passing of this Act as an auctioneer or estate agent in the British Islands; (*c*) all persons who at any examination held by the board under this Act or (in the event of the board exercising the power of delegation by this Act conferred upon them) by either of the existing bodies on behalf of the board shall attain the standard of proficiency prescribed or (in the event aforesaid) approved by the board, and who shall possess such qualifications (if any) for registration as may for the time being be prescribed by the board under this Act."

Thus it is, we think, perfectly clear that a very large number of architects will be prejudicially affected if this Bill becomes law, and gives power to the Auctioneers and Estate Agents' Institute of the United Kingdom and the Surveyors' Institution to prohibit from making valuation of real property any but their own members and those whom they may see fit to admit to their register. There is no doubt that valuations for mortgage or compensation would be thus effected, and what is for architects of even more importance the making of valuations for certifying payments to builders would, in our opinion, be also affected. If, for instance, the case came before the High Court there could scarcely be a doubt that buildings, whether completed or partly constructed, are real property, and that before an architect can certify for payment he must make a valuation. The fact that the work of an architect includes the valuation of real property within the meaning of the Act is further shown to be recognised by the promoters of the Bill, inasmuch as it is specifically provided that members of the Royal Institute of British Architects and of the Society of Architects shall be exempt from the operations of the Act. Architects who do not belong to either of those bodies must therefore, if the Bill becomes law, reconcile themselves to being registered as auctioneers or estate agents and paying an additional tax in the shape of registration fee and annual licence, both of which are provided for in the Bill, with power for the board to fix a differential scale of fees for members of the two promoting institutions.

The valuation of real property is scarcely, in our opinion, a subject requiring the registration of the valuers for the protection of the public; this is already sufficiently done by the common law which makes the valuer responsible for the correctness of his valuation. There is far more need for the registration and regulation of those auctioneers who deal with personal property and those who "carry on the other branches of the business of an auctioneer or estate agent" upon whom the Bill "does not seek to impose any restrictions."

GATEPOST, MALPAS CHURCH, CHESHIRE.

MALPAS CHURCH is a charming example of a small country parish church. It was built about 1610, and several alterations and additions have been made from time to time. A notable and quaint addition is the vestry, which is carried out in quite a classical spirit, the rest of the church being Perpendicular Gothic.

The gateposts and wrought-iron gates must have been added at the same time as the vestry, probably before 1765, for on the gateposts are the names of the deacons for that year, and indeed all over the church, on rain-water heads, wall stones, gateposts, sundials, &c., are the names of deacons for certain years; the gates themselves

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are quite famous as splendid examples of wrought-iron work.

There are two of these gateways, one facing the village and the one illustrated facing the south-west.

The small view gives some idea of the picturesque appearance of the latter, for on the corner there is another small gateway led up to by old circular steps, with a cobble paving below, the whole adding a most charming effect. There are finely wrought scrolls of ironwork on top of the smaller gate.

The gatepost is a very stately one, being executed in sandstone, some of the stones being of a pink hue, whilst the others are quite white.

The graceful urn surmounting the top has weathered a faint green, and the post is panelled on all sides, and to support the gates a bolt has been taken right through the gatepost. The top of the urn has unfortunately been broken off.

In the church are the private pews and tombs of the Egertons and Cholmondeleys, and there are also many vaults of noble knights and barons who lived in the environs.

R.I.B.A. EXAMINATIONS.

THE FINAL: ALTERNATIVE PROBLEMS IN DESIGNS.

Instructions to Candidates.

1. THE drawings, which should be on uniform sheets of paper of not less than Imperial size, must be sent to the Secretary of the Board of Architectural Education, Royal Institute of British Architects, 9 Conduit Street, W., on or before the dates specified below.

2. Each set of drawings must be signed by the author, and his full name and address, and the name of the school, if any, in which the drawings have been prepared, must be attached thereto.

3. All designs, whether done in a school or not, must be accompanied by a declaration from the student that the design is his own work and that the drawings have been wholly executed by him. In the preparation of the design the student may profit by advice.

4. Drawings for subjects (*a*) are to have the shadows projected at any angle of 45° in line, monochrome, or colour. Drawings in subjects (*b*) are to be finished as working drawings. Lettering on all drawings must be in a clear, scholarly character.

Subject XVI.

(*a*) An island on a river, about 240 feet by 100 feet, is the site for an hotel and tea gardens. The usual accommodation for a country hotel, together with ample balconies, having suitable outlook, is to be provided. There should be accommodation for housing boats. The general level of the island is 8 feet above the river, which in flood rises 6 feet.

Drawings required.—Block plan to $\frac{1}{16}$-inch scale, with other drawings to $\frac{1}{8}$-inch scale.

(*b*) A dairy and farmstead (sixty cows).

Drawings required.—Plans to $\frac{1}{16}$-inch scale.

Elevations of portions and sections to $\frac{1}{8}$-inch scale, with $\frac{1}{2}$-inch scale details.

Subject XVII.

(*a*) A circular hall for meetings, concerts, &c., to seat 2,000. An organ, and the usual cloak-rooms and retiring-rooms must be provided. The building to be considered as being on a detached site, and the façades to be in stone.

Drawings required.—$\frac{1}{8}$-inch scale and a detail to $\frac{1}{2}$-inch scale.

(*b*) An elementary mixed school for 200 children, for a rural district. The area of the site not limited, but the school is to be designed on the corridor system. A manual instruction room and a cookery school are to be included.

Drawings required.—Block plan to $\frac{1}{32}$-inch scale. Other drawings to $\frac{1}{8}$-inch scale, and detail through hall to $\frac{1}{2}$-inch scale.

Subject XVIII.

(*a*) The organ-case in the circular hall (see Subject XVII. (*a*)). The longest pipe to be 32 feet.

Drawings required.—$\frac{1}{2}$-inch scale with some details to not less than $\frac{1}{4}$ full size.

(*b*) A group of small dwellings for twelve aged couples, to be considered from a practical point of view. Each dwelling to consist of at least two rooms. A common dining hall and kitchen offices to be provided. Site having a frontage of 80 feet looking S.E., on the outskirts of a town.

Drawings required.—$\frac{1}{8}$-inch scale, and details of different portions to $\frac{1}{2}$-inch scale.

Dates for Submission of Designs in 1914-15.

	Subject XVI.	Subject XVII.	Subject XVIII.
United Kingdom .	Aug. 31.	Oct. 31.	Dec. 31.
Johannesburg . .	Oct. 31.	Dec. 31.	Feb. 28.
Melbourne . .	Nov. 30.	Jan. 31.	Mar. 31.
Sydney . . .	Nov. 30.	Jan. 31.	Mar. 31.
Toronto . .	Sept. 30.	Nov. 30.	Jan. 31.

CORPUS CHRISTI COLLEGE, OXFORD.*

CORPUS CHRISTI COLLEGE was founded in 1516 by Richard Fox, Bishop of Winchester, and dedicated to "The Praise and Honour of the most precious Body of Christ, of His Spotless Mother. . . ." This prelate was born about the close of the reign of Henry VI. Though the son of poor parents he received an excellent education. His studies at Magdalen College, Oxford, were interrupted by an outbreak of plague. He went on to Cambridge and thence to Paris, where he was presented to Henry Tudor, Earl of Richmond, then busy with preparations for invading England, whose confidence he quickly gained and in whose cause he worked indefatigably. When the Earl, after the victory of Bosworth, became Henry VII., he appointed Richard Fox, D.D., to be a privy councillor and employed him throughout his reign on many important diplomatic affairs. Amongst the honours heaped upon this all-powerful ecclesiastic were successively the bishoprics of Exeter, Bath and Wells, Durham, and, in 1500, of Winchester—which see he held until his death twenty-eight years later. The King appointed Fox one of his executors and recommended him to his son and successor, Henry VIII. But the latter monarch was not of a kind to take his counsellors ready-made, and he showed a growing lack of enthusiasm for his godfather. Fox endeavoured to place a friend in headquarters by introducing to the King Thomas Wolsey, one of his chaplains, in the hope that a check might be given to his opponents. The eventual consequence was his own undoing, for in course of some ten years Wolsey became even more paramount than he himself had ever been, and far more arrogant. Instead of an ally Wolsey showed himself a remorseless critic and a keen rival, finally driving the discomforted Bishop from the Court in 1515. Fox retired to Winchester, where he devoted himself to his ecclesiastical duties and works of munificence. One of the greatest of these was the foundation of Corpus Christi College, Oxford.

The statutes of the College were issued in 1517. The foundation consisted of twenty Fellows and twenty scholars, of whom the Fellows were to be elected from the scholars, while the scholars were to be elected from certain specified counties. Two marked peculiarities attached to the foundation. Fox's original intention was to make it a nursery for the monks of St. Swithun at Winchester, and for this he obtained a licence. However, on the advice of his friend, Hugh Oldham, Bishop of Exeter, he changed his plan and made it simply a school for the increase of learning. The usual rules of life and discipline were, however, enforced with severity. The other peculiarity was that the studies were to be expressly connected with the spirit of the age and the lectures were not the old routine of divinity and the two philosophies, but divinity, humanity, and Greek. Bishop Fox was indeed the first to make provision for the study of Greek in the university. Nor have the classical traditions ever left the "garden of bees"—as the first statutes term it. The chief feature of Corpus is the library, which is rich in illuminated and early English MSS. and in early printed books.

The College adjoins Merton on the west. It was founded on five halls, which were bought partly from Merton, partly from Godston Nunnery, and partly from St. Frideswide's. By 1528 the whole College stood complete, and must have formed a group of striking beauty, comprising the present front quadrangle, having on the north the gate tower, on the south the library, with the chapel (1517) beyond, on the east the hall and the kitchen. The hall possesses its original hammer-beam roof. The library is fitted with seventeenth-century woodwork and a gallery overlooking the chapel. The Gothic cloister south of the chapel was replaced in 1706 by a classical piazza.

* See Illustration.

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Over the entrance gateway, which has a beautiful roof, is a small carved panel representing angels bearing the Host, or Corpus Christi, in a monstrance, with the arms of the Founder and the See of Winchester on either side. The conspicuous object to be seen in the centre of the quadrangle is a cylindrical sun-dial, designed and presented to the College by Charles Turnbull, a Fellow, in 1581, and which forms a perpetual calendar. It bears the arms of Henry VIII., the University, Bishop Fox, and Bishop Oldham, and is surmounted by a pelican, the crest of the Founder, and badge of the College. The quadrangle was completed in 1517 and embattled in 1609. The fenestration generally is marked by a spaciousness unusual to most collegiate buildings.

COMPETITION NEWS.

DONCASTER.—Further to our note in last week's issue as to the proposed housing scheme on the Carr House Estate, the Town Council have decided to promote an open architectural competition, and to offer premiums of £50, £30, and £20 for the plans placed first, second, and third respectively. It is recommended that a general development plan for about twenty acres be prepared as part of the competition, and that a scheme be prepared for about 100 houses, the cost of each house and site to be about £200.

DUDLEY.—The Town Council have decided to invite competitive designs from qualified architects within 150 miles of the borough for a new Town Hall, municipal buildings, and police station. The designs are to be submitted to an assessor to be appointed on the recommendation of the President of the Institute of British Architects. Three premiums are offered—namely, £50, £30, and £20.

DUMFRIES.—In connection with the proposed housing scheme, the Town Council have referred back a recommendation from the Health Committee that it was impracticable to obtain competitive plans, and that the Council should proceed on plans drawn up by the burgh surveyor. It was contended at the meeting of the Town Council that this was antagonistic to the open vote of the Council, and the matter was eventually remitted to the committee for them to advertise for competitive designs.

GATESHEAD.—Members and Licentiates of the Royal Institute of British Architects are advised that the conditions of the competition for the proposed school, Sunderland Road, are not in accordance with the Institute Regulations for architectural competitions, and the Competitions Committee are in correspondence with the promoters with a view to getting them amended.

GUILDFORD.—The Town Council have accepted the award of the assessor (Mr. J. H. Norris) and accepted the plans of Mr. T. R. Clemence, of Guildford, for the proposed municipal offices. The estimated cost of the winning design is £4,266.

LONDON.—The principal feature of the July number of "Concrete and Constructional Engineering" is the announcement of the result of the £125 concrete-cottage competition. The assessors, in their report, express their satisfaction with the number and general character of the designs. Two hundred and forty-nine drawings were received. The first prize of 100 guineas was awarded to Mr. Ernest S. Thompson, architect, 5 Victoria Street, Westminster, S.W.; the second prize of fifty guineas to Mr. Chas. Bulman Pearson, Licentiate R.I.B.A., of 109 High Road, Chiswick, W.; the third prize of twenty-five guineas to Mr. Harold G. Holt, A.R.I.B.A., 11 Probyn Road, Wallasey, Cheshire; and the fourth and fifth prizes of ten guineas each to Messrs. Leonard G. Hannaford, 42 Rock Park, Rock Ferry, Cheshire, and M. Crosnier, 20 Brechin Place, South Kensington. Two consolation prizes of five guineas were also awarded to Messrs. J. Cocker & T. Hill, 20 Station Buildings, Stamford New Road, Altrincham, and E. W. Stubbs, A.R.I.B.A., Grayshott, Marlborough Road, South Croydon. The assessors were Mr. Max Clarke, F.R.I.B.A., Professor Beresford Pite, F.R.I.B.A., and Mr. Edwin O. Sachs, F.R.S.Ed. The entire drawings sent in will be exhibited at the Surveyors' Institution (Lecture Hall), 12 Great George Street, Westminster, S.W., until the 11th inst., from 11 A.M. to 6 P.M.

MIDDLETON (LANCS).—The Town Council have decided to invite competitive designs from architects and builders for the erection of twenty-four houses in three classes—namely:—Class A: To have a frontage of 16 feet, to include three bedrooms and bath, not to exceed £170 each, exclusive of land and street works. Class B: To have a frontage of 17 feet, to include three bedrooms and bathroom, not to exceed £190 each, exclusive of land and street works. Class C: To have a frontage of 18 feet, to include three bedrooms and bathroom, not to exceed £220 each, exclusive of land and street works. The houses are to be erected in blocks of not more than four, and the by-laws of the Corporation and the Middleton Corporation Act, 1910, complied with.

ST. HELENS.—In connection with the scheme for the erection of premises to be used as a police court, with accommodation for the magistrates, police offices, and fire brigade, the Town Council have decided to invite competitive designs and to offer premiums of £100, £50, and £25 for the designs placed first, second, and third respectievly, by an assessor appointed by the Corporation.

ILLUSTRATIONS.

THE BRITISH BANK OF SOUTH AMERICA, LTD., MOORGATE STREET, LONDON, E.C.

THE British Bank of South America, Ltd., was founded in 1863 under the name of "The Brazilian and Portuguese Bank, Ltd." The erection of the new head offices, which we illustrate in this issue, may therefore be considered to coincide with its jubilee, and also with the increase of the subscribed share capital to £2,000,000. The present office occupies not only the site of the premises previously occupied by the same bank, but the corner house was demolished and the space included. The two street façades have been carried out in Portland stone and richly ornamented, especially that fronting on Moorgate Street. The ground floor, as well as the two basements and the top floor, are occupied by the Bank; the intermediate storeys are let to tenants. The banking hall on the ground floor is entered through the central doorway shown in our illustration; the walls are of light coloured marble panels with marble stiles and rails, and the ceiling is in plain plaster coffers with an ornamental cornice. Coloured marbles have been somewhat more freely employed for the paving. The entrance doorway and adjacent fireplace are outlined in white statuary marble. The lighting is obtained from the windows on the two fronts, and also through reinforced concrete domes for the inner rooms.

Tenants of the first, second, and third floors have a separate entrance in Moorgate Street, with its own marble-panelled staircase.

On the fourth floor are placed the Board Room, retiring-rooms, &c. These are reached by a lift. The dome of the Board Room was carried out in reinforced concrete. Its plaster surface is enriched by paintings emblematic of the countries served by the Bank. In the lunettes are small windows filled with transparent alabaster. A further touch of colour is afforded by the wall panels and their gilded plaster enrichments. The floor here, as throughout the whole building, is of oak over concrete reinforced with expanded metal. The heating throughout is by hot water.

Messrs. George Trollope & Sons and Colls & Sons, Ltd., were the general contractors. The lift enclosure was supplied by Messrs. Caston & Co., Ltd. The wrought ironwork generally is by Messrs. Spittal & Clark. All the marble work was by Messrs. Burke & Co. Messrs. J. Jeffreys & Co., Ltd., carried out the heating. The lift is one by the Otis Elevator Co., Ltd.

The design for the Bank was prepared by Messrs. Dunn & Watson.

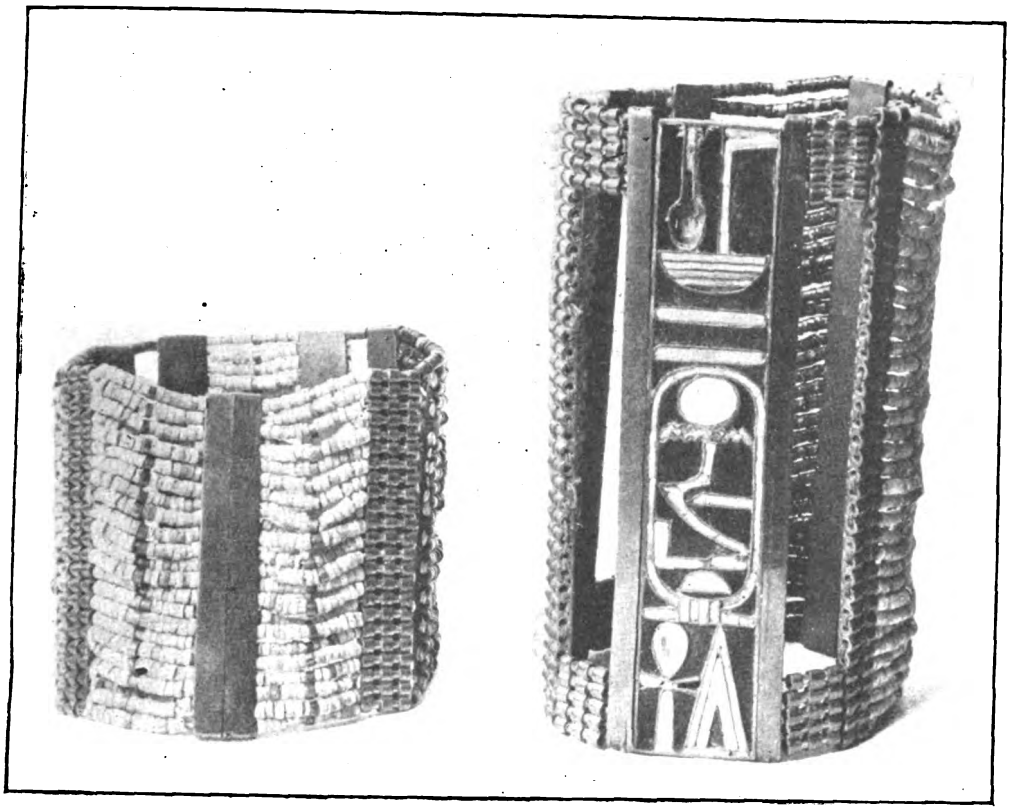
CORPUS CHRISTI COLLEGE, OXFORD.

WE give this week the first of a series of views of this college. A brief account of its history may be found on the preceding page. Our illustration shows the quadrangle—looking towards the entrance gateway.

ACCORDING to the census returns for 1911, just published, there were 11,619 painters, sculptors, and artists, 5,110 engravers, and 8,921 architects.

THE Lord Provost's Committee of Edinburgh Town Council recommend that no action be taken in connection with a letter from the Edinburgh Architectural Association, conveying the desire of that Association to be represented directly by a member of the Association upon the Board of Management of the College of Art.

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GOLD BRACELET WITH CARTOUCHE OF AMENEMHAT III. (INLAID TURQUOISE BLUE AND WHITE PASTE) AND GOLD BEADS.

THE TREASURE OF THE PYRAMID OF SENUSERT II. (B.C. 3,400).

IN returning to a pyramid where twenty-five years previously Professor Flinders Petrie had started excavations, he discovered last winter one of the most exceptional hoards of treasure hitherto come to light. In the sacred enclosure of the Pyramid of Senusert II., about sixty miles south of Cairo, in the Fayùm, a group of five Royal tombs was found belonging to princes and princesses; these, as is so often the case in Egypt, had already been rifled ages ago, the great granite lid of one sarcophagus, that of a princess, having been pushed back as far as it would go until it was stopped by the rock wall, and then the sharp under edge of the lid had been hacked away, leaving sufficient space for a small boy to creep in and hand out the contents to his confederates.

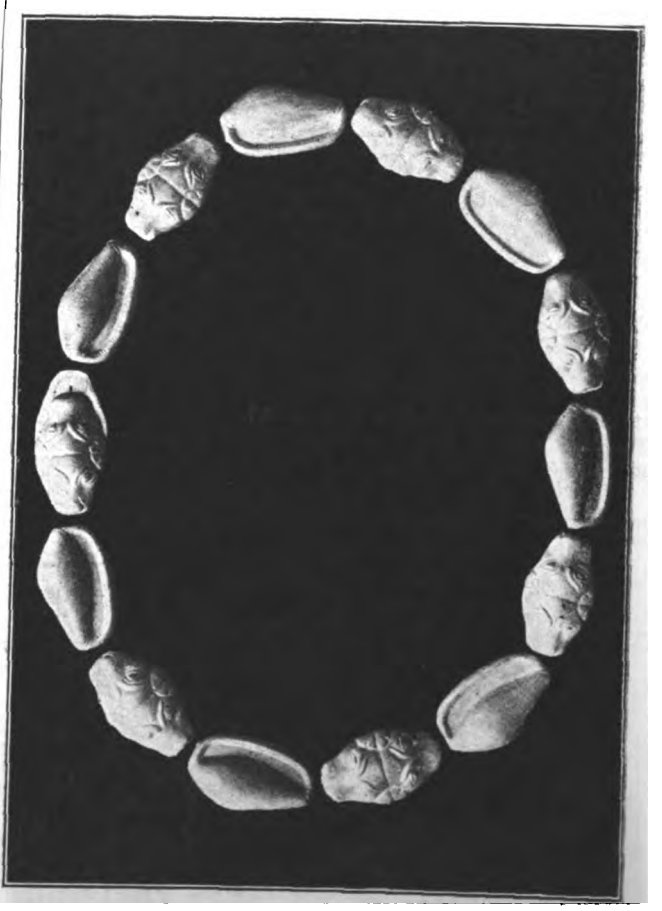
This tomb was found to be completely empty, but close by was a small recess about 3 feet wide, in the wall of the passage, filled to all appearance with mud, but in clearing the mud some gold beads immediately came to the surface. The entire treasure had been placed in the recess in caskets at the time of the burial, and remained until rain and storm had washed down the mud into the pit and covered it from view. The caskets of wood and ivory decayed in time, and their contents became encased in mud.

It is extraordinary to think that in such a conspicuous place the treasure should have escaped the thieves, and remained from the day it was placed there—about 3,400 years before Christ—to the present time.

With the utmost care the cake of mud in the recess was examined and found to contain, amongst other jewels, a golden crown of the most beautiful workmanship. The fillet that encircled the head is of burnished gold an inch wide, and on it were fifteen rosettes of a beautiful design inlaid with carnelian; in the centre should have been the Royal uraeus, but this was missing; it was discovered, however, after a careful search, but the cobra was found to have but one eye. Again the mud was carefully washed and a tiny garnet bead was found, together with its gold setting, so the lapis lazuli head of the cobra was once more complete. Two golden feathers stand up high behind the crown, and three streamers fall from the fillet, one behind and two on either side of the face. These are cut out of sheet gold, and are of a different quality to the fillet, as they are red and their surface is so very delicate that it would be spoilt if it were rubbed with the hand.

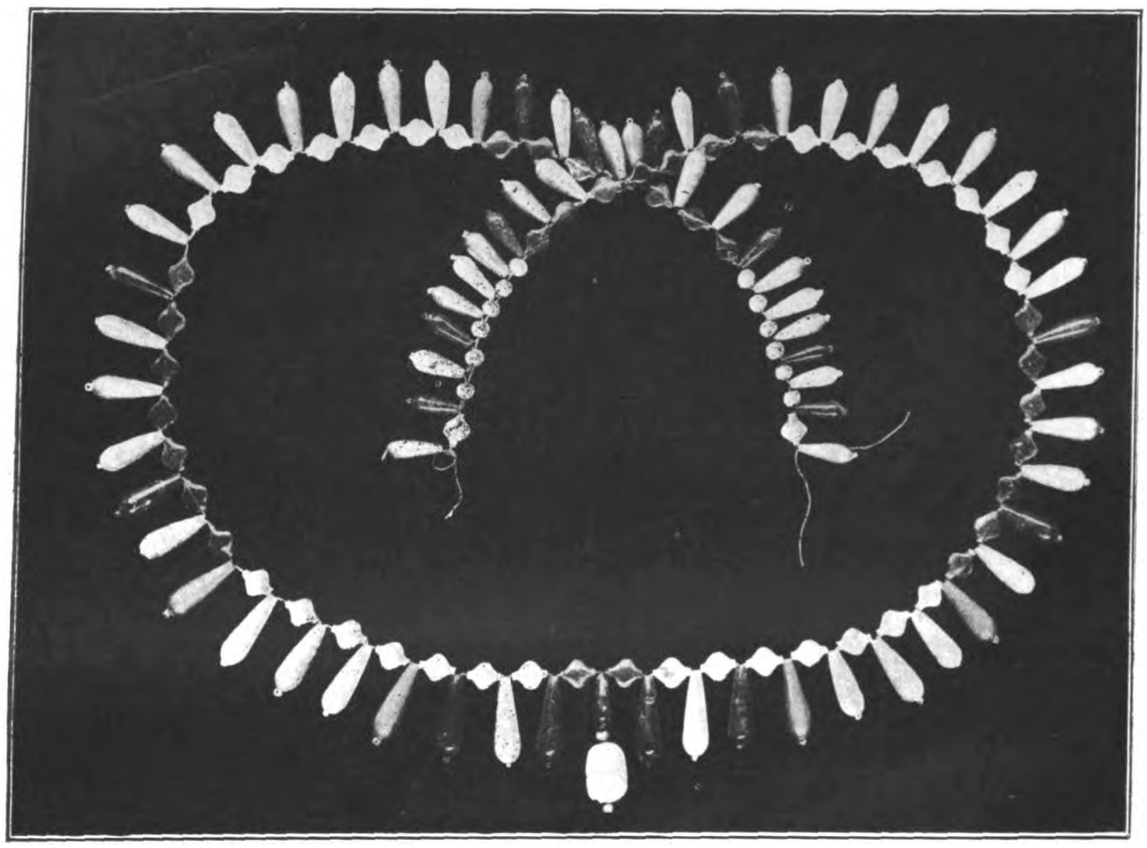
The entire crown is of a pattern hitherto unknown, and is in all probability an Old Kingdom type.

Beautifully worked pectorals of gold inlaid with lapis lazuli and green felspar were found; one was of more delicate workmanship than the other, the hawks which outline the design being more elegant in form. The earlier one



COWRIE SHELLS AND GOLDEN LION HEADS.

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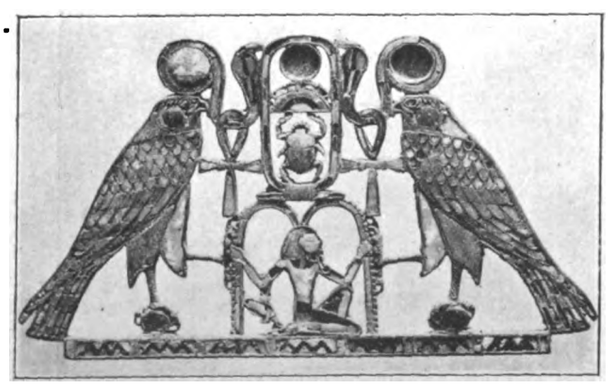


NECKLACE OF PRECIOUS STONES AND GOLD BEADS.

belonged to the princess in her girlhood, and has the cartouche of Senusert II. The later pectoral, the cartouche of Amenemhat III., is inferior in workmanship, and the hawks are coarser and heavier in outline. Inlaid bracelets were worked with the name of Amenemhat III. in carnelian, the rest of the bracelet being made of beads of gold strung together. Necklaces of golden cowrie shells and lions' heads were also found. The shell was a very popular ornament, and according to Strabo was used as an amulet against witchcraft. The silver mirror found has a handle of obsidian inlaid with gold, lapis lazuli and carnelian, the necking and base of the handle being held together, as it were, by the inlaid bands of plaited gold.

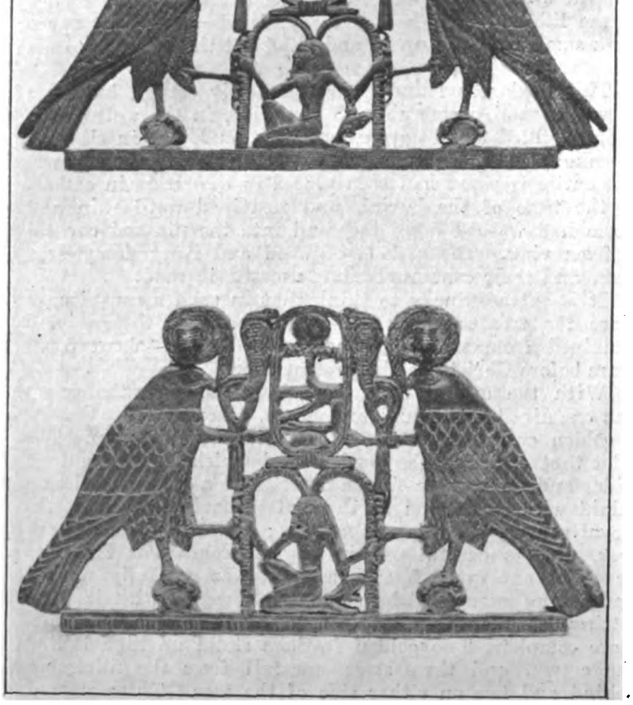
The head of Hat-hor was probably cast in gold, made in two pieces and soldered together; the cow ears of the goddess are made separately and soldered in. The eyes are of crystal set in silver, which in tarnishing probably gave the relief necessary. The eyebrows are of lapis lazuli. The curved piece which supports the disc above the head is of white electrum, and to this the head-dress was attached. The wig was probably of wood inlaid with stripes of electrum. Over ten thousand gold beads belonging to necklaces and bracelets were found.

The four canopic jars had been placed in a limestone chest. These jars represent the four sons of Horus, to



THE EARLIER PECTORAL WITH CARTOUCHE OF SENUSERT II.

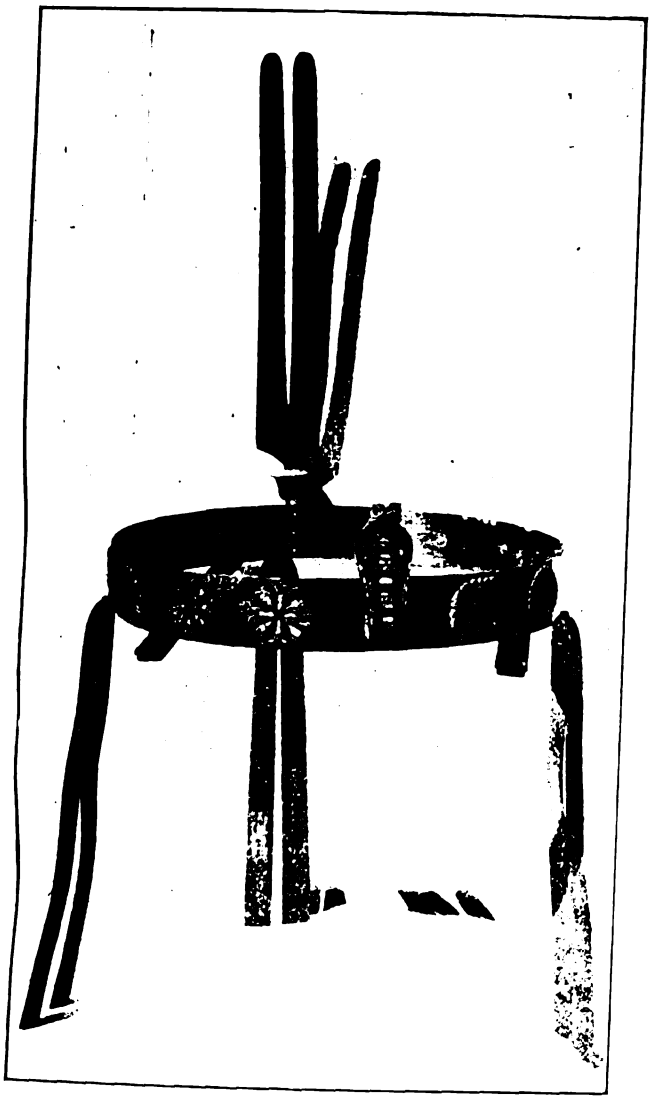
PECTORAL OF THE LATER PERIOD. CARTOUCHE OF SENUSERT II.



PECTORAL OF THE LATER PERIOD. CARTOUCHE OF AMENEMHAT III.

INCISED BACKS OF GOLD PECTORALS

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CROWN COMPLETE.



ROSETTES IN GOLD CROWN.

whose protection the embalmed parts of the body of the deceased were dedicated.

Professor Petrie declares that these are the most beautiful canopic jars that have yet been found; each has an inscription with the name of the god invoked, and also the name of the Princess Sat-Hathor-ant.

Very beautiful gold-mounted vases in obsidian and a kohl-pot were among the toilet necessaries, and alabaster vases for the eight sacred oils were part of the funerary offerings.

The annual exhibition of the result of Professor Petrie's winter's work is now open at University College, Gower Street, and any information as to membership of the Society can be obtained from the Hon. Secretary, Mrs. Flinders Petrie, University College.

LONDON UNIVERSITY SCHOOL OF ARCHITECTURE EXHIBITION.

THE average middle-aged architect must perforce contrast the educational advantages offered to the present-day student of architecture with the much more meagre opportunities afforded in the mid-Victorian days. It is true that there were classes and lectures thirty years and more since; but far too much was left to the unaided abilities (or their lack) of the individual. We all know that there were, even under these circumstances, the born geniuses and the patient plodders, who controlled, instead of being controlled by, Fate; but for the everyday aspirant the outlook was far from promising.

The London Architectural Association did not effect merely good pioneer work in the fostering of an architectural progressive education; it continues such to the present day, but it lacks the prestige of the London University, nor is it to be expected that it can so extensively co-ordinate its curriculum or produce such a collegiate atmosphere as the Alma Mater of the Metropolis. We have not the slightest intent here to depreciate the valuable work of the Association; but now that London University has chosen to deal with architecture as with any other learned and worthy subject of study, the possibilities for the future are widely increased.

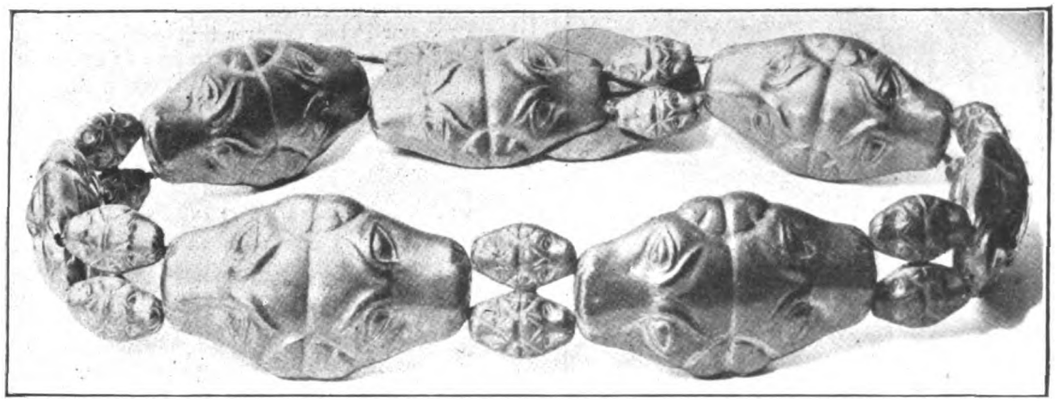
The roll of day students is at present both small in itself and also relatively in regard to the evening school; but the efflux of time will cure this, and full advantage will doubtless be taken of the fine new premises built and equipped for the School of Architecture. Time, it is hoped, will see students joining not merely for a two or three years' course, but for the more advantageous period of four, five, or even six years.

Nor does the Architectural School stand alone, for with it are associated the Slade School of Fine Art and the School of Engineering, each possessing its own block of buildings adjoining in this Gower Street College of the University. And if architectural students are taught that beauty in design must be allied to, and is indeed dependent upon scientific construction, engineering students are in turn taught that architectural fitness must be associated with their works, in order to produce the best results.

And now let us bend our attention to some of the work comprised in the annual display of the school, in the first place regarding the work shown in the Students' Section of the Exhibition of British Architecture held last May in the Jeu de Paume, Paris. We were attracted by a fine drawing of Waterloo Bridge by Mr. H. N. Fisher, prepared partly from personal measurements and (where these were not feasible) from earlier records; it is a masterly sheet of work in every respect. A design for a Screen and Street Entrance to a College Quadrangle shows quite a different class of drawing by Mr. Oliver Gaunt; it is a working sheet, well drawn and delicately tinted, having clearly plotted explanatory plans of various portions, and all necessary notes and figures; but it is an error of judgment to draw the plan of a column across its elevation, except in the exact position where the diameters will agree. The same student has a set of measured drawings of William Wilkins' dome to University College, Gower Street, which had been adequately scaffolded for the purpose that full measurements might be taken.

High commendation is due to Mr. E. B. Musmann for

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TREASURE OF A PYRAMID.—GOLDEN LION HEADS. (See p. 29.)

his Grecian Doric Screen and his Town Club, more especially for the detail drawings; and Mr. R. Hill's polychromatic treatment of the Parthenon in situ and in detail makes an effective sheet. Mr. Charles Voysey's design for a Country House shows good planning on a monumental scale, with a pleasant Italian design in elevation. Other drawings in the Paris exhibit include designs for a Roadside Hotel and the Entrance Hall and Staircase of a Museum, pencil sketches of the Palazzo Rucellai, the Porta del Molo, and other historic and artistic pieces of architecture. The area of space allotted to the school was rigidly restricted; but we consider that good representative use was made of it.

When we turn to the day-school work of the past three years we confess to a feeling approaching envy in viewing the often masterly grasp of essentials displayed by modern students, whose training enables them to be so very much alive to the requirements of Art and Architecture. We are not suggesting that the work must not in most cases be judged from an academic standpoint; but so judged the verdict is eminently favourable. There is Mr. G. A. Cosser's lighthouse on an isolated rock 100 yards from a naval harbour, and his design for a monumental fireplace, though in the latter case we certainly marvel that the Royal Institute accepted it for the Final, as we regard it as faulty in the three qualities of design, drawing, and colouring—and yet how different from most of the work contemporary with our own student days!

Mr. H. N. Fisher's design for a screen connecting the wings of a building for a Royal Society would also admit of minor criticisms, but is in the main good; and similar remarks apply to his design for a College Library. Several designs are shown for the latter subject, but the best of all is that by Mr. J. T. Hare, who most appreciates the desirable interior planning and fitting of such a library, and whose Gothic design is not only eminently suitable and expressive, but is also a pleasant relief to the prevailing Classic and Renaissance.

The designs for a Hunting Lodge are of very varied merit in the several points of planning and design and the lay-out of the grounds. And once again we must accord praise to Mr. Hare for his School design, which is good in plan and expressive in its elevations. Of the various schemes for a group of seven cottages, we thought best of Mr. G. A. Cosser's, and his half-inch drawing is excellent. We noticed, too, some effective pencil drawings of ornamental details by various students, and a display of building-construction sheets shows the attention paid to this eminently practical part of the many-sided profession of Architecture.

We must find space for a few remarks about the Evening School, whose students are at a more advanced stage than those attached to the Day School; in some instances they have been removed from one to the other, but in most cases consist of young men attached to offices during the day-time, and anxious to supplement their practical day-labours by the profitable acquirement of academic knowledge during the evening. We noticed a collection of Mr. W. G. Whincop's Travelling Studentship drawings, whereof the half-inch detail of the Theatre Royal at Manchester is especially noteworthy. Miss Mary Shewen has a very good set of drawings for a golf club-house, and also a colonnaded screen. Mr. T. O. Thirtle's treatment of the group of seven cottages shows a good plan and an effective elevation. Mr. E. B. Musmann's design for a Clock Tower is highly commendable, and his pencil drawing of a fireplace for a large reception-room is excellent and of generally good Classic design. We must give a word of praise to Mr. Charles Voysey's Public Library, and in conclusion must accord a word of welcome to our old friend, the tomb of Archbishop Grey in York Minster, very correctly and neatly drawn by Mr. Arthur Smith.

There is much more work worthy of mention, and, not unnaturally, we have mostly passed over what might be adversely criticised, but the Exhibition as a whole is full of interest, full of promise, and far from devoid of performance.

THE LATEST PRACTICE OF TOWN PLANNING IN THE UNITED STATES.*

By CHARLES MULFORD ROBINSON, Rochester, N.Y.

AMERICAN city planning seems, clearly, to be getting away from the draughting board. Or, rather, the draughting-room is no longer its central office. The planner of towns must often have recourse to his draughting table, of course, however many the hours he spends at his desk, in his library, or on the streets; but there was a time—not so long ago—when a city plan, as understood in America, was a thing of star-points that sang together in unison, as a firmament showing his handiwork: of French curves, of quadrigas, pylons, and fountains; of temples and palaces, suggesting dreams of a Prix de Rome.

To-day, if one may judge by the published plans of the last eighteen or twenty months, city planning is not a showy affair, but a sober one. It requires thoughtful discussion, not wonderful pictures; it has more to do with laws and ordinances than with architectural compositions, and the manner of presentation is not as important as the matter. In short, not fine books but better cities and towns is the goal. There is more consulting of responsible officials; and the whole thing is coming down to earth out of the roseate clouds—a new Jerusalem, one might say, "coming down out of heaven," if one were not afraid of getting Biblical references too close together.

The American city plan reports published in the last few months are for the following communities: Portland, Ore; Houston, Texas; Dover, N.J.; Raleigh, N.C.; Newport, R.I.; Erie, Pa.; Newark, N.J.; Alton, Ill., and Walpole, Mass. In addition partial reports—i.e., reports on special phases or aspects of a city plan—have been published for New Haven and New London, Conn.; for St. Louis, Mo.; for Council Bluffs, Ia., and for Jersey City, N.J. The two groups make a formidable list, but there probably can be no more accurate way of studying the "Latest Practice of Town Planning in the United States" than by a study of these latest reports.

To one who knows the physical, social, and commercial geography of America, the list is significant. It includes a city located on each coast, thousands of miles apart though they are. But there is more than a linear distance between old New London and new Houston, Texas; between populous Newark and little Dover: between gay Newport

* A Paper read at the forty-first annual general meeting and conference of the Institution of Municipal and County Engineers held at Cheltenham, June 24-27.

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THE FIGURE OF A PYRAMID.--SILVER MIRROR. (See p. 29.)

and industrial Alton; between commercial Portland and academic New Haven; or between placid Raleigh and Council Bluffs, upon whose steam railroads there is a "freight train every eleven minutes and a passenger every eight." These differences are at least as striking as that due merely to the miles that remove the West Coast from the East.

One can only think, in running over such a list of cities, and adding its evidence to the testimony of a list similarly made up eighteen months ago, that all kinds of cities and towns, in all parts of the United States, have taken up town planning. And this judgment is correct. Clearly, then, with such variety of subject and of need to look for any considerable uniformity in the practice of American town planning would be to anticipate little adjustment between the want and its satisfaction.

There are other reasons for differences rather than for likenesses in these reports. They have been made by a half-dozen different men, and they have been made to as many different organisations or parts of the city administration. The latter circumstance affects the manner of presentation and the emphasis hardly less than does the *personnel* of the planners. Though one were reporting the results of his study of a single town, one would not prepare the same report for the Mayor and Council as he would for a Woman's Club, for the Board of Trade as he would for the Park Commission, for a City Plan Commission as he would for an improvement society. In observing characteristics of the different reports, one should bear that fact in mind. It is notable, however, that more and more of the reports are made to official bodies.

The directness of its popular appeal gives to the American town-planning report a human and vital quality which is far from the brevity or perfunctoriness of official records. Something out of the heart and life of its writer went, it may be supposed, into every one of the reports before us. If, in such work, there is an element of propagandism, the stimulating explanation is its recognition that it addresses an essential democracy.

That with this quality still strong there could be a discarding of alluring "picture-plans" in favour of more practical and serious discussion is witness to the town-planning education of the masses and to a widened acceptance of town-planning principles. The result is due in large measure to this very method of "reasoning together," which is the striking characteristic of an American city-plan report. The American's town-planning education has come from the reports—not, appreciably, from periodicals, books, or lectures—and the studies still show no tendency to become only the maps of an expert, unintelligible in a popular sense because of technical excellence. At first the work of the poet and painter, almost of the evangelist, the reports are yet those of the pleader and advocate, not of the engineer. Text is not to elucidate maps and plans, but they exist to illustrate the text—a distinction of vast importance. To see maps and plans in an exhibition has never been to see a real town plan as that term is understood in the United States. Formerly, however, the citizen was supposed to acquire inspiration and enthusiasm from the plans, because it was supposed he would not have patience to read. Now he *is* expected to read, and to turn to the plans for illustrations.

With this said in introduction and explanation, the separate reports can be briefly characterised. Then certain common features will be noted, to indicate more fully the drift of the recommendations.

The largest city covered in recent reports is Newark,

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N.J., of which the population at the last census was 350,000. Two city-planning studies have been published. The first is by Charles F. Puff, jun., who at the time was "city planning engineer" of the Department of Public Works. It is issued by that department. The other, which appeared several months later, is from the municipality's official City Plan Commission, and contains the report of George B. Ford and E. P. Goodrich, the experts retained by it. Both studies are attractively published—the latter in stiff cover with many plans, the former on larger paper with many photographs as well as plans. Necessarily, both reports consider the same subjects—streets, railroads, and harbour, street car transportation, and recreation. In addition, the experts of the City Plan Commission devote considerable attention to the question of a public market.

In Mr. Puff's report a striking statement is that he has placed a higher value upon "personal observation and survey than upon statistics," as in his judgment the plan "should not only *provide for* but *direct* traffic." "A great mass of statistics," he adds, "is intensely interesting and enlightening, but gathered under present conditions, for instance, they would be of no practical value whatever, should an avenue like the proposed Central Avenue extension be opened." This is an interesting statement in itself and for the light it throws on the spirit of the report. While appreciating that the protest has some force, one must object to putting quite so slight a value on statistics. In the very case mentioned they are essential to determine, first, whether such an extension is necessary, and, secondly, if it is what its traffic capacity should be. Yet on the whole there is much in the report which is wise in theory, stimulating and suggestive.

The report of Messrs. Goodrich and Ford does not err on the side of undervaluation of statistics. Their traffic counts, for example, are probably the most elaborate and costly that have been ever made in the United States as precedent to a town-plan study. There are other features which give a character of its own to the City Plan Commission report; and this, it may be added, has rather superseded the earlier one. Mr. Puff has resigned his position and the Department of Public Works is in co-operation with the Commission.

When it is said that the entire report makes a volume of nearly 200 pages, there will be appreciation of the fact that especially good points are an elaborate Table of Contents, an Index very notable for its completeness, and a two-page "Summary." These greatly enhance the usefulness of the study. There is a good introductory chapter—not a portion of the expert's report—on "Newark's Advantages." One cannot miss the significance of its inclusion. Then comes the report proper. The first three chapters are devoted to streets. Series of plans and maps show the suggested changes, which the text describes. Here alone, among recent American reports, there has been no attempt to give continuity in a literary sense to the recommendations of these chapters. This method of presentation, while not pleasant, might be effective if the comments were sufficiently terse. The text, however, instead of reading as if a business man or engineer were describing the merits of the proposed changes, is a little suggestive of a Sunday-school superintendent addressing children. But the ideas appear to be good. The chapter on Harbour Development is exceptionally fine; there is also a valuable review of the Commission's work, and a most interesting collection of statistical data on the street railroad situation. Unfortunately the long special report, of which these latter statistics formed the basis, has not been printed. The report as a whole gives, to unusual degree, the desirable impression that a plan is a living, growing thing.

Next after Newark, in point of size, comes Portland, Ore., among the American cities for which plan reports have been lately published. The report is made by Edward H. Bennett, whose long association with the late Daniel H. Burnham has stamped his work with the largeness of vision and daring imagination that were the special characteristics of the Burnham city plans. In fact, on the first page of his "Greater Portland Plan," Mr. Bennett quotes these words from his master: "Make no little plans; they have no magic to stir man's blood. . . . Make big plans, aim high in hope and work, remembering that a noble, logical diagram, once recorded, will never die."

Mr. Bennett, who more than once has proved his ability to live up to this injunction, does not fail when handling so inspiring a subject as Portland. We have only his preliminary report, but a foreword states that it sets forth "his main ideas," and largely in his own phraseology. Moreover, the report is copiously illustrated with his maps and diagrams, as well as with photographs. It is however, presented with less dignity of form, as a publication, than any of the other recent city-plan reports. Yet it was published by the official City Plan Committee on an appropriation from the Common Council.

Portland's plan anticipates the time when the present city of a quarter of a million will have a population eight times as large, and when its present area of fifty-four square miles will have been increased to 150 square miles. Necessarily, great traffic arteries, the development of diagonal streets, the creation of boulevards, and a project for the extension of the business centre are primary considerations of the plan. It contemplates an increase in park acreage, from the 650 acres now possessed, to reservations—partly forest—that would total nearly eight thousand acres. The grouping of the public buildings in an imposing civic centre, a larger commercial use of the river, and an extension of the steam railroad facilities for both freight and passenger service, are other features of this "big" plan. For all the relative insignificance of its small paper-bound publication, it is probably the most far-seeing—perhaps this is another way of saying the most visionary—of all the later city-plan reports. It is most like the earlier type of plan. But it was made for a Western city which is rich and has grown rapidly, and it was made for an official commission. There should be recollection also that Portland's nearest rival, Seattle, brought out exceedingly elaborate plans a couple of years ago. It is likely, therefore, that the commonplace and easily attainable would not have been locally acceptable.

In size, the cities that come next upon the list are Houston, Texas, and Erie, Pennsylvania, with populations at the last census of seventy-eight and sixty-six thousand respectively. Except in size, these cities have little similarity, and their reports, made by different men, are totally unlike. That for Houston is made by Arthur G. Comey. It is attractively issued in book form, with stiff covers; and in common with all the other reports is fully illustrated. Mr. Comey spent several months in Houston in its preparation, and its special characteristics are its thorough comparative "Survey," physical, social, and financial, and its discussion of desirable legislation. The latter includes, for instance, a consideration of the limitation of building heights that placed this report in a class almost by itself, until the recent issue of the very elaborate report of the New York City Commission on this subject.

Yet the report is modestly described as a "Tentative Plan." It is addressed to the Park Commission, and Mr. Comey by profession is a landscape architect, but it cannot be said that he has put a disproportionate emphasis on this phase of the subject. In fact, the outline which he presents in his opening chapter of the topics to be considered by a city plan is a very interesting and just analysis, in which parks are given no more than their rightful place. Mr. Comey's report is notable also for its attempt to indicate the relative urgency of the various projects that are suggested, and for its clear statement of the steps of procedure which he considers to be locally desirable.

"Greater Erie," as the Erie report is called, is a most elaborate and ambitious publication. There is nothing modest about its presentation. The city-planning portion of it is by John Nolen, and this is supplemented by chapters on transportation facilities by E. P. Goodrich and F. Van Z. Lane, on the development of commerce by Henry C. Long, on legal matters by a local committee, and by several appendices which contain the history of Erie and many pertinent facts as to the city's present development. The whole report, with its pictures, elaborately printed quotations, &c., bulks larger than any other three or four of the recent reports put together. This is largely due, it should be stated, to the energy and enthusiasm of the City Planning Committee of the Erie Chamber of Commerce and Board of Trade, to whom the report was addressed, and by who it was financed at a cost of something more than five thousand dollars. This energy and enthusiasm has at once resulted in the appointment of an official commission, under such leadership that Dr. Nolen is confident that much which the report suggests will be promptly realised.

The arrangement of the Erie material, under five heads—streets, railroads, water-front, buildings, and open spaces—is such that in each case a brief statement of exist-

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ing conditions is followed by a statement of general recommendations, and these in fuller detail by specific recommendations. As this method lends itself to matter-of-fact and uninspiring statements, there has been attempt to provide an emotional appeal by a sprinkling of conspicuously placed quotations—not always relevant or especially well chosen—and by striking pictures. The result is pretty good at first glance, but clearly Erie was not of itself an inspiring subject. Dr. Nolen handles it, however, with his customary conscientiousness, and there should be special mention of the chapter by Messrs. Goodrich and Lane on street transportation facilities. This is a very concrete and practical discussion, closing with an outline that might be taken as a model for the complete examination of the transportation system of any city.

Newport is hardly to be judged as other towns. As a fashionable resort, where some of the richest people of America have built themselves palatial summer homes, and so have raised land values to a height unequalled in other cities of its size, no one much cares that its winter census is less than half that of Erie. Newport's needs and Newport's ability in city planning are not to be gauged by the population figures. It is, then, no surprise to find that the report on "Proposed Improvements for Newport" was prepared by Frederick Law Olmsted, chairman of the National City Planning Conference, and widely known as a high-priced designer of beautiful estates, and that it has been published in the most sumptuous dress of all the recent reports—if allowance be made for comparative brevity.

Newport, however, has something more interesting, because more fundamental, than fashion and wealth, to a degree which is possessed by few other American towns. This is picturesqueness. It is one of the oldest American cities, and to the attractiveness of its air and natural scenery is to be added this unusual charm of picturesqueness as a heritage from days when streets were narrow and neither regular nor straight, when houses were substantial rather than pretentious, and when gardens, screened by fence or wall, could express the individuality of those who loved them and used them. Mr. Olmsted was quick to perceive this, and keen in his analysis that a secret of Newport's charm was that "its scale is small and intimate." He recognises that, while in most towns convenience, ease of communication, increase of efficiency and sociological betterment are the principal desiderata, in Newport prosperity mainly depends on the continued favour of fashion, and that to destroy the charm of the town by ironing out its picturesque quality, even when this involved some community inconvenience, would be "a pitiably wasteful folly." The task that is set him, therefore, is no easy one. To increase the capacity of little streets without robbing them of their charm, to widen highways and yet save brave old trees, to secure for the public some of that lovely natural scenery which wealth has so largely absorbed for its personal enjoyment, these are the special needs that give to the Newport problem a character of its own.

In coming to Raleigh and Alton—one a capital city and one an industrial town—there is more in common than a likeness of population. This the last census placed as only between eighteen and twenty thousand. Each town is greatly in need of those elementary, fundamental things whose presence may usually be taken for granted when an existing city authorises a town plan. The reports recognise this need and attempt to adjust themselves to it. "Landscape Architecture," the quarterly organ of the American Society of Landscape Architects, says of one of them:—

"Relating to the planning of the future city, Mr. Robinson discusses the financial preparedness of Raleigh to undertake this work, and offers definite practical suggestions as to certain street changes, park additions, new playgrounds, park connections, and consideration of the suburbs which at some future time may become portions of the larger city. All the suggestions are matters of applied common sense, which look very simple and obvious when stated in a report, and which might hardly seem, without consideration, to be worth the employment of an expert to discover. But, as a matter of fact, if all these simple suggestions were carried out, which they readily could be with the means at hand, the effect on the beauty and prosperity of the city would be greater than could be secured, at least in the immediate future, by the adoption with much flourish of an elaborate plan on paper for future grandeur. A report of this kind is much like medical advice to a patient from a skilled practitioner, consisting in nothing more than recommendations to confine his diet to certain kinds of food. It sounds simple, it is easy to practice, but it is more effective than expensive medicine."

Much the same comment would apply to the study of Alton, made by the same man. It is interesting to note that in the one case the report was authorised by the Woman's Club and in the other by the Board of Trade, and that in both instances the reports, which are quite long, are published in an unpretentious but an attractive and dignified form.

Dover and Walpole, with populations of seven and five thousand respectively, are little more than villages. The significant and encouraging feature is that such small towns had the enterprise to send for town planners—for the same men, respectively, who planned Houston and Erie—to advise them how best to prepare for the future. The Dover report is a neat little pamphlet; the Walpole has been published as yet in only a preliminary folder. The attractive development of the town centres and the early setting-apart of sufficient park and playground areas are the dominant common problems of these towns, and it is clear as one goes through these latest town-planning reports that in the American practice there is little of the stereotyped. For all the much-criticised standardisation of the earlier American street plans, the town planner, more on the look-out for differences than likenesses, finds each problem a new and fresh one, demanding original solution. Whatever there may be to fear in the town-planning wave that to-day is sweeping the United States, the bogey of a loss of town individuality cannot yet justify an anxious thought.

Once this is duly recognised, it is interesting to note that the emphasis which at first was on civic centres, and then on park systems, seems in these latest reports to be setting strongly towards concern for circulatory problems. The convenient handling of street traffic in main highway systems, and after that a more efficient development of railroad terminals, are subjects that each report takes up with earnestness. This is in response, no doubt, to the growing congestion of all kinds of traffic, and especially to that expansion of street traffic which has come with the automobile. The modern town is confronted by new conditions in the street traffic's speeding up, its growth in volume, and its increase in complexity. As to the emphasis of the future, if one may venture a guess from the signs that are given in these late reports, it is to be on industrial efficiency, on harbour improvement, and on housing. The latter, which in the British Isles is considered so earnestly, in the United States has only just begun to be thought about.

Since each change of emphasis carries standards higher, so that thereafter there is no slipping back to the old neglect, the American town plan of the near future should be an exceedingly comprehensive and well-rounded study, in which civic centres, parks, and recreative provision, traffic accommodation, transportation, industrial efficiency, and better housing will each have due consideration. The only danger, if danger it may be called, is that the standard will be placed so high that no single town planner, and no single town plan, will venture to attempt so much. From this point of view the co-operation of different experts (as instanced in the Newark and Erie plans) and the several partial reports of the last few months that take up phases only of a town plan are very likely significant.

There are several examples of the latter. E. P. Goodrich and George B. Ford present to the City Plan Commission of Jersey City an illustrated report, published in sixty pages of unbroken text, on simply "Plan of Procedure." This is an outline only of the subjects upon which, in their judgment, the Plan Commission should authorise a study, with suggestion of the direction that in each case the study ought to take. From New Haven come pamphlets on two different subjects, by two town planners. Mr. Olmsted's is a discussion of building lines in a single ward—virtually a consideration of steps for street widening. It is notable that it is made to a joint committee of the Civic Federation and the Chamber of Commerce. The other, by Frederick L. Ford, one of the few well-known American students of city planning who is a city engineer, discusses the improvement of the harbour front and an approach to the new railroad station which the city was hoping to secure. It is as considerable in bulk as some of the so-called city-plan reports, and is made to the Mayor and a committee of aldermen. From St. Louis comes a most interesting description of a traffic-parkway, designed to pass the public buildings and the union railroad station,

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and to facilitate traffic intercourse between the business and residence parts of the town, the while it redeems a blighted district. This report, which is handsomely issued, bears the imprint of the city's official Plan Commission. The reports which are issued from New London and Council Bluffs outline park systems. They were made by town planners at the request of the Park Commission.

In closing, a third type of city-planning publication demands recognition, for the light it may throw on recent American practice. This is the annual report of official plan commissions such as those of Hartford and of Pittsburgh. There are few of these yet, and of the few first reports are only beginning to appear. But they are destined to become a growingly important branch of American town-planning literature, and doubtless we shall soon be turning to them for the most accurate record of actual town-planning progress in the United States. From that point of view, the report from Pittsburgh, taking up briefly but clearly the status of the various projects that are being locally considered or developed, is a model in arrangement. When many cities and towns are annually issuing such reports, upon a like official authority, town planning will have graduated into town building.

THE ROME SCHOLARSHIPS.

ENGLAND is old enough and great enough not to be afraid of learning from others in fact, part of her greatness is the result of this eclectic absorption of alien wisdom. That our island folk should wish to study in the capital of the once sturdy Roman Empire, which in its day did so much for the welfare of Britain, is natural and far from being a novelty; but the establishment of a British School at Rome, founded on the lines of those set up by France, by the land of the stars and stripes, and other nationalities, is of very recent date. It was in 1901 only that our school was founded, and after a few years' working it was reconstituted in 1912, being then moulded into its present shape. The thoughtful generosity of the Royal Commissioners for the Exhibition of 1851 gives solidarity to the school by providing three annual scholarships in the several arts of decorative painting, architecture, and sculpture, whose close alliance is becoming increasingly recognised as desirable.

These scholarships are of the value of £200 per annum in each case, and tenable for three years; and, supplemented by the Jarvis scholarship of the same value, tenable for two years (and allotted by the Royal Institute of British Architects), provide a good nucleus for the prosecution of serious studies on the part of British subjects. We might mention that Mr. E. L. Lutyens is the author of the school buildings now being erected in the City of the Seven Hills, and they will provide all the facilities requisite for the objects of the school.

The works being exhibited this week in Crosby Hall, Chelsea, were executed in the Final Competitions for the Rome scholarships in the three subjects mentioned above.

ARCHITECTURE.

The requirement in the architectural competition was "A British School at Rome," and a period of three weeks was allowed to competitors. To Mr. Philip D. Hepworth, A.R.I.B.A., was awarded the main scholarship (the gift of the Royal Commissioners), Mr. Ernest Cormier, A.R.I.B.A., receiving the Jarvis scholarship. Mr. Hepworth has in the main kept to his original esquisse, and his treatment is certainly deserving of considerable commendation. It may be described as consisting of an aggregation of isolated units, the medium of separation being throughout loggias. Upon the central axis are the entrance vestibule and the library, and in the rear of a longitudinally placed exhibition gallery are the professors' room and the semi-circular amphitheatre, both on the central axis. To right and left of the library (as approached from the vestibule) are the Common Room and the Dining Hall respectively. Six projecting wing blocks, approached by open loggias as elsewhere, are devoted to directors' and students' quarters (left and right on the main front), the other four being for studios for painting, architecture, and sculpture, the last named being allotted two of the blocks, one of these consisting of separate studios for each pensioner. But why does Mr. Hepworth show big windows to the four front separate studios, and none at all to those in the rear? We suppose it is for the sake of the architectural design that the big windows are provided in the one case and the blank walling in the other, but it is an error of judgment. The design is a very fitting and dignified presentment for a well-planned scheme.

Mr. Cormier's drawings, as such, make a much better appearance than Mr. Hepworth's, and in some respects we prefer his plan, though we consider that on the whole it is inferior academically considered. Mr. Cormier, like most (if not all) of the competitors except Mr. Hepworth, has not drawn a compass-point on his sheets. As regards his plan, the library is once again made the central feature, and the studios are set in wing blocks in the rear, the residential quarters being in wing blocks in the front; but Mr. Cormier has apparently got confused as to the relative position of director and students, if we are to judge by the ground and first-floor plans successively. The studio blocks do not impress our imagination, nor the very formal and stiff provision of terraces in the rear of the school.

Of all the other schemes the only one which we can really regard as a close competitor is Mr. T. Braddock's, showing great and justifiable originality, and a plan which possesses æsthetic elements of the best kind. The grouping is at once concentrated and well systematised, but is, in our view, inferior to Mr. Hepworth's in being rather too concentrated; and the elevational designs, good as they are, are also somewhat inferior in comparison, whilst the draughtsmanship is certainly (as in the case of Mr. Cormier) superior. The planning is in the stadium form, residential quarters taking up the front curves and studios occupying those in the rear. Centrally and also longitudinally set is a block of buildings with a central reception hall, having on one hand the library and amphitheatre, and on the other hand the dining and common rooms.

Mr. MacPhail and Mr. B. A. Miller show poor schemes with rather meaningless and muddled plans, anæmic designs and poor draughtsmanship. Mr. Miller makes the great error of allowing his passion for symmetry to overcome the dictates of common sense in regard to proportion; the common room, the service room, main lecture hall, and the directors' room are allotted the wing buildings, and are thus Procrusteanly treated.

Mr. F. Jenkins arranges his buildings around three sides of an open cortile, and as he merely indulges reasonable, and not tyrannical, symmetry, his scheme is ipso facto better than Mr. Miller's. The design is in no sense expressive of a scholastic building, and the drawings are indifferently executed. Mr. Keesey, too, has a very ordinary plan, lacking largeness of ideas and no practical benefit accruing from the disposition shown. His, again, is a poor design and poor draughtsmanship.

Mr. E. R. F. Cole has a charmingly drawn scheme in the Italian style (as, indeed, are several of the others); the entrance in his plan is shown leading to a centrally placed library, which is square externally and circular within—a rather wasteful library is this, merely for twenty-four students. The courts are too much elaborated, and as drawn serve to confuse the plan; but it is a pleasant set of drawings to regard.

SCULPTURE.

The sculpture subject was "A Relief, 5 feet by 3 feet, for a mantelpiece in a private concert hall, and a sketch model of the mantelpiece one-tenth in size." In this competition also we consider the award correct as regards relative merit; but in view of the fact that the panel does not tell its story and of the confused composition, it might have been better not to award the scholarship; the technique is pleasant, but why does Mr. C. S. Jagger so unkindly express the ladies' ribs? The small scale is effective, but the superstructure is too heavy a burden for the atlantes set in the jambs of the fireplace. Mr. W. H. Wright's composition certainly tells a story, but a very thin one indeed. Mr. Hancock's, too, tells its story much better than Mr. Jagger's, but the panel does not compose well; the heads of the figures are startling in their almost complete detachment from the background. Mr. Wilcoxon's design is also poor, and all we can say for it is that the chimney-piece is well proportioned.

DECORATIVE PAINTING.

As regards the decorative painting, we do not agree with the finding of the assessors. "The Judgment of Paris" is a good subject for selection, but we fail to see the merits of Mr. J. M. B. Benson's treatment of it. The goddesses are plain, characterless, unattractive, rather

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sloppy and misdrawn objects, and Paris looks like a man of fifty years of age; we can understand that he should look unhappy in having to award a golden apple amongst such. The colour scheme is not at all bad, but we do not regard it as so decorative as is Miss G. Davison's; moreover, she has produced a better piece of composition, and (which is always of great importance) one that tells its story well. Her Venus is, we must admit, an unhandsome lady and would not have gained our suffrages, which Juno would have received. The introduction, too, of Oenone in the background, bewailing the defection of false Paris, is a happy touch in the scheme. Mr. Woods-Hill's scheme is quite decorative, but is poor in conception and composition. Paris seems to be saying, "Here, you can have the apple if you like; I'm not particular." Mr. Derrick's contribution shows a lack of composition, poverty of drawing, and crudity of colouring.

And here having reached the last drawing, the final exhibit, we will conclude with the hope that the next annual display will provide a larger quantity of pleasing and promising work.

PICTURE THEATRE SCHEME: ARCHITECTS' CLAIM.

In the King's Bench Division on Thursday, July 2, before Mr. Justice Bankes, Messrs. Scott Willey & Webster, architects and surveyors, of 161A Strand, W.C., sued Harry Robert Wilkinson, of Hotham Road, Putney, and W. Lambert, of Holland Road, W., for professional fees and disbursements amounting to £203 18s. incurred by them at the defendants' request. Mr. Lambert denied that they acted for him, and that Mr. Wilkinson had no authority to ask them to act. Mr. Wilkinson denied that he asked them to incur expenses, and that if they were it was on the understanding that the plaintiffs should find the capital, and that the plans were negligently prepared.

Mr. Rowland Thomas was for the plaintiffs, Mr. Mulligan for Mr. Wilkinson, and Mr. Tratton for Mr. Lambert.

Mr. Thomas said his case was that from the time the plaintiffs received instructions to carry out the work the two defendants, Wilkinson and Lambert, were jointly interested in the venture, which was the building of a picture theatre at Fulham. Mr. Lambert had obtained a lease of some land there from the London County Council. He was in communication with Mr. Wilkinson, and on December 6, 1912, he asked Mr. Webster if he could raise some capital for the scheme. Mr. Webster said he could not entertain the proposal as he was neither a financier nor a moneylender. Mr. Lambert's defence was that instructions given by Mr. Wilkinson for plans were without his authority, and that he knew nothing about them. But by his diary it would be seen that he and Mr. Wilkinson were seeing one another daily and that they were discussing the question of building the theatre. Counsel said that earlier in the year, on March 18, Mr. Lambert called on Mr. Webster and told him that he had arranged for the scheme to be financed, and gave definite instructions that the preparation of the plans should be proceeded with. He left a rough sketch of the building required, and in June he called and took away the plans. Mr. Wilkinson, in his defence, did not deny that the plaintiffs received instructions, but said he gave instructions to prepare the plans in consideration of the plaintiffs undertaking to find money for the scheme. His second defence was that the work was negligently done, and that he had a counterclaim. But from the beginning of 1913 to March they had not heard a word from Mr. Wilkinson that the plaintiffs' work was negligently done, and there was never a suggestion that they were being blamed because the undertaking had fallen through because they had failed to provide the money. Counsel read extracts from the diary mentioned and from a voluminous correspondence to show that the plaintiffs were acting throughout on the defendants' instructions.

Mr. F. A. M. Webster, one of the partners of the plaintiff firm, gave evidence of the instructions they received to prepare the plans for the theatre. In cross-examination he denied that anything was said about a limit of the cost of the building, nor did he agree that they should not be paid until the theatre was opened, or that they would undertake to find a large part of the capital for building it.

Mr. H. H. Scott Willey, A.R.I.B.A., the other plaintiff, said he got instructions to prepare plans from Wilkinson, who handed him a plan of the site and told him roughly what he required. He delivered the plans to the London County Council last August, and he charged the ordinary R.I.B.A. scale of fees. No suggestion was made until lately that the work was negligently done.

For the defence, Mr. H. R. Wilkinson, one of the defendants, was first called. He said when he first saw Mr. Webster, that gentleman told him that he could find a large part of the capital for the picture-theatre scheme. Witness said that Mr. Lambert had had plans prepared, but Mr. Webster said that if they found the capital they would expect to get out the plans. Subsequently he had other interviews with the plaintiffs about the details of the scheme. He said the cost ought to be about £2,000, irrespective of internal fittings, and it was arranged that they should prepare the plans. They agreed that they should get their fees after the theatre was opened, and that they would find the capital.

His Lordship: What was to happen if the theatre was not built?

Witness said it was up to them to find money, and it would have been built if they had carried out their promise.

Mr. Arthur Charles Shread, an entertainment manager, called on behalf of Mr. Wilkinson, said he was present at an interview between the plaintiffs and the defendants, and he corroborated the statements as to the conditions under which the defendants said the plans were to be prepared.

The other defendant, Harry William Lambert, said he arranged with Mr. Wilkinson to find money to build the theatre on the land he had acquired through his friends the architects. At that time he did not know who they were.

To his Lordship the defendant admitted that he was a partner in a joint adventure, but he thought he was not liable in the present case because he understood that Mr. Wilkinson had got the money before he met the architects. He never gave any instructions for plans, that being in the hands of Mr. Wilkinson, to whom he gave no authority whatever.

In giving judgment his Lordship said it was clear that the defendants were co-adventurers in the theatre scheme, and that Mr. Lambert authorised Mr. Wilkinson to find the architects. Mr. Wilkinson failed to get the latter to do the work on his own terms, but on the terms that they should be paid their fees in the ordinary way. Mr. Lambert took the most active part when the plans were made, and acted when Mr. Wilkinson was ill. He held that both defendants were liable, and gave judgment against them for the amount claimed, with costs.

NUTFIELD AND BLECHINGLEY.*

By F. H. HARPER.

NUTFIELD.

THE picturesque village of Nutfield, D.S. Notfelle, overlooking the Weald, has been famous for centuries for fuller's earth, which, to quote from Manning and Bray, is "found in greater quantity and better quality in this county, and particularly in this parish, than in any other part of England." Fuller's earth is used in the preparation of woollen and worsted materials, for filtering mineral oils, for decolourising certain vegetable oils, in the manufacture of soap and cleaning preparations, and for other purposes.

Firestone and hearthstone are also quarried here, and the local sandstone is employed as a coarse building stone.

The manor of Nutfield was granted by the Conqueror to the Countess of Boulogne. Since then it has passed into the possession of numerous holders, none of whom, however, have left any particular mark on the pages of history. Doubtless they were sufficiently occupied in acquiring wealth from the natural resources of the district.

There was a church at Nutfield at the time of the Domesday Survey, but no part of that edifice now remains. The present building, dedicated to Saints Peter and Paul, stands to the north of the village, and dates mainly from the Decorated and Perpendicular periods. It was extensively restored in 1884, and consists of nave, chancel, north and south aisles, south chapel, and a low, square tower.

The entrance to the churchyard is through a picturesque modern lych gate.

The tower, which is at the west end, is Perpendicular, with a stair turret and battlements, and is surmounted by a spire. There is a partially obliterated inscription cut

* A Paper read before the Upper Norwood Athenæum.

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on one of the buttresses dating from the closing years of the sixteenth century.

Perpendicular towers are not common in Surrey, others being at Puttenham, Frensham, Stoke (near Guildford), and Send.

The only other feature of the exterior, most of which is rough cast, which calls for remark is the south porch, which is a delightful specimen of Decorated work. The ornamented bargeboard and wooden arch form a very pleasing picture.

On the wall near the porch there formerly stood the tablet, now placed on the wall inside the west door, record-



NUTFIELD, 1812.

ing the death of Thomas Steer in 1769 at the age of seventy-six. The epitaph reads:—

"He liv'd alone,
He lyes alone;
To Dust He's gone,
Both Flesh and Bone."

While on the subject of tombstone inscriptions, mention may be made of the stone in the churchyard to Henry Devall, who died in 1860, age seventy-three, with the lines:—

"This world's a city with many a crooked street,
And Death the market-place where all men meet;
If Life were merchandise that men could buy,
The rich would live, and none but poor would die."

The nave piers are Early Decorated, the north aisle and the windows Perpendicular, the south chapel Decorated; the



NUTFIELD, 1824.

font is Perpendicular, with the date 1665 and the initials "H. H. T. W." cut on the base. The south aisle is modern.

The ancient carved oak pulpit of the Tudor period is worthy of notice.

The chancel is Early Decorated, with windows of the same period, and furnishes numerous details worthy of inspection.

The carved screen is Perpendicular (fifteenth century), but possibly has been restored. On the south wall is a piscina, with projecting bowl, in a Decorated niche.

Cox refers to some old stalls with misericords of Perpendicular date, but these have now disappeared.

The reredos is of carved oak, and doubtless hides the aumbry in the east wall mentioned in some descriptions of the church.

Under a Decorated canopy in the south wall is a low altar tomb. Surrounding the matrix of a cross fleury is a mutilated inscription in Norman French, given in Manning and Bray as follows:—

"Sire Thomas de Roldham gist ici
Deu de sa alme eyt merci."

On the south wall of the sanctuary is a small brass of early date showing figures of William Graffton, at one time clerk of this church, and Johanne, his wife, furnishing a notable case of a married priest. He is attired as a layman, and is shown without a tonsure.

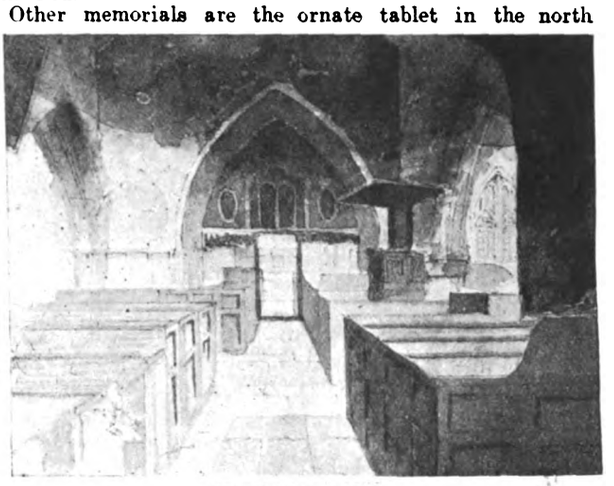
On the east wall of the south chapel is a brass to Lady Powerscourt (died 1780), shaped like a "fret"—the Tollemache arms; and another to Ellen Viscountess Canterbury (died 1845).

There are also other brasses to the Power, Purves, and Manners-Sutton families.

In the south wall of the south chapel there is a small brass tablet suspended over the altar tomb of Edmond Molyneux, with an inscription which, translated, runs as follows:—

"When thou seest a tomb, why dost thou despise mortality? Be thou mindful of death, thou, who livest at hazard. What is thy life? Pain. What is death but the end of pain? Death follows life; a happy life succeeds to death. Shall we then sorrow for the departed? No; it is well to be apart from the living, that we may live with God."

Other memorials are the ornate tablet in the north



NUTFIELD, 1824.

aisle to John Peter Elige (died 1805) and his family; the stone in the sanctuary to Charles Gillmyn (died 1631), with his arms—"a man's leg spurred and booted"; and tablets to the Rev. B. Hollingworth (died 1728), J. Ellis, B.D. (died 1792), E. Sandford, B.D. (died 1832), and R. Briscoe, D.D. (1864-80), former rectors of Nutfield.

Some fragments of old glass remain in one of the windows of the north aisle and in the west window. The stained east window was designed by Sir E. Burne-Jones (1892).

In the north wall of the chancel, concealed by a hinged brass, is a blocked "low-side" window.

The registers date from 1558.

The living is a rectory in the gift of Jesus College, Oxford. The present rector is the Rev. G. Hartwell Jones, D.D.

BLECHINGLEY.

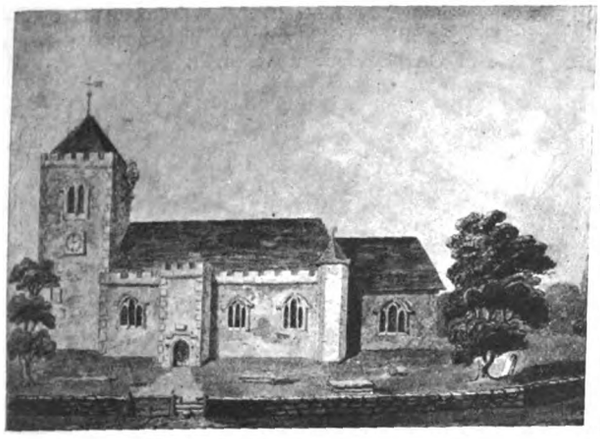
About a mile and a half from Nutfield is Blechingley (D.S. Blachingelei, the mark of the Bleccingas), now little more than a village, but formerly a town of considerable importance. One tradition is that it once boasted seven churches; another that there was a palace belonging to the great Earl Godwin, who is said to have resided here in State after his Kentish manors had been inundated and converted into the Goodwin Sands.

Blechingley Castle has been attributed to this Earl Godwin. There is, however, no proof as to the correctness of these legends, although at the time of the Conquest a large part of Surrey was held by the Earl Godwin's family.

Coming from legend to history, we find that Blechingley was one of the Surrey manors granted by the Conqueror to

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Richard de Tunbridge, Earl of Clare, and remained with that family for nine generations. It passed by marriage to the Dukes of Buckingham, remaining in that family for six generations. On the conviction of Edward Duke of Buckingham for treason, and his execution in 1521, it was granted by Henry VIII. to Sir Nicholas Carew of Beddington, one of his favourites. This holder, however,



BLECHINGLEY, 1736.

met with the same fate as his predecessor, and ended his days on the scaffold in 1539, the manor again reverting to the Crown. Two years later Henry settled it upon his divorced wife, Anne of Cleves, with reversion to Sir Thomas Cawarden, another royal favourite, who resided here and managed the estate, and who is said to have entertained the King here on several occasions. Anne of Cleves, in 1547, at the instigation of Edward VI.'s Council, exchanged part of the manor for Penshurst. She died in 1557, and bequeathed £4 to the poor of Blechingley.

Sir Thomas Cawarden duly succeeded to the estate after Anne, but does not seem to have had a very peaceful time. Falling under suspicion of supporting the cause of Lady Jane Grey, his castle was searched and his armour and military stores were seized. Five times during the reign of Queen Mary he was indicted for heresy, but on the accession of Elizabeth he was restored to favour.

He died in 1559, and the funeral ceremonies were very splendid, costing £129 11*s.* 9½*d.*—a large sum in those days. His tomb stands in Blechingley Church between the chancel and the south chapel.

Cawarden was a gentleman of Henry VIII.'s privy chamber, Master of the Revels, "Keeper of the King's Tents, Hales and Toyles," who was held in high favour by that monarch. The Master of the Revels was appointed originally to superintend royal festivities. The office later developed into general censorship of the stage, and in 1624 was put directly in the hands of the Lord Chamberlain.



BLECHINGLEY, 1841.

After Cawarden, Blechingley passed to the Howards of Effingham, and about 1620, by marriage, to the Earl of Peterborough. This earl's son, who pulled down the fifteenth-century manor house, was an energetic Royalist, and was fined £10,000 by Parliament. Being unable to raise the money by other means, he had to dispose of the manor, and in 1677, during the reign of Charles II., it was purchased by Sir Robert Clayton, knight, a wealthy alderman and Lord Mayor of London, remaining with his descendants until 1788.

A large measure of the early importance of Blechingley was due to the castle. As already mentioned, this is traditionally attributed to Earl Godwin, but beyond this legend nothing is known of its origin.

It stood in a field south-west of the town, overlooking Holmesdale and the Weald. The foundations were excavated a few years back.

In 1264 this castle, being held for the barons by Gilbert de Clare, Earl of Gloucester, was captured and almost demolished by the royal forces under Prince Edward, afterwards Edward I., on his return from the battle of Lewes. It was soon rebuilt but never regained its former importance, and the date when it fell into utter ruin is not known.

Blechingley has a further claim to distinction, having once been a Parliamentary borough. From the reign of King Edward I. until the first Reform Act of 1832 it enjoyed the privilege of returning two members to Parliament, the right of election being vested in the burgage holders resident in the borough. When disenfranchised the number of electors had dwindled to ten or twelve. The borough was described as "the vile, rotten borough of Blechingley," and with the exception of Gatton and Old Sarum was one of the most scandalous of all the pocket boroughs on record. The elections prior to 1733 took place in a house called "The Hall," and after that date at



BLECHINGLEY, 1841.

the White Hart Inn. It is recorded that the reversion of the borough was on one occasion sold for £60,000.

The church of St. Mary the Virgin at Blechingley is a more pretentious building than the generality of the old churches of Surrey, and furnishes examples of Norman, Early English and Perpendicular architecture. It was partially restored in 1864, when the north aisle was added, and further improved in 1872; while the tower underwent restoration as recently as four years ago.

It now consists of nave, aisles, south chapel, north transept (or Ham chapel), and western tower.

A good feature of the exterior is the Perpendicular porch, recently restored. Over the outer entrance is a niche with figures of the Virgin and Child. Above the porch is a parvise chamber, with door on the west side, probably reached by external staircase or ladder. The inside of the porch is Early English (thirteenth century).

There is a rood loft turret at the junction of the south aisle and chapel—a feature frequent in Kent, but uncommon in Surrey.

There is a small blocked "low-side" window in normal position, with a small quatrefoil, also blocked, below it. A quatrefoil "low-side" is to be seen at the neighbouring church of Tatsfield; and another at Shere in connection with an "anker-hold." Having regard to the projecting fragments of a ruined wall on this side of the church, it is possible that an anker-hold existed here also.

The massive tower, which is the oldest part of the present church, the lower part being Norman, was restored in 1910, when the thirteenth-century west door was renewed. It was formerly surmounted by a lofty timber spire, destroyed by lightning on November 17, 1606, "with five great bells"—"an accident which gave occasion to Mr. Simon Haward, M.A., first minister of Bansted and then

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of Tandridge, in this county, to write a discourse of the several kinds and causes of lightning."

The roofs of nave, chancel, and south aisle are old timber, that of the nave being supported by grotesque corbels.

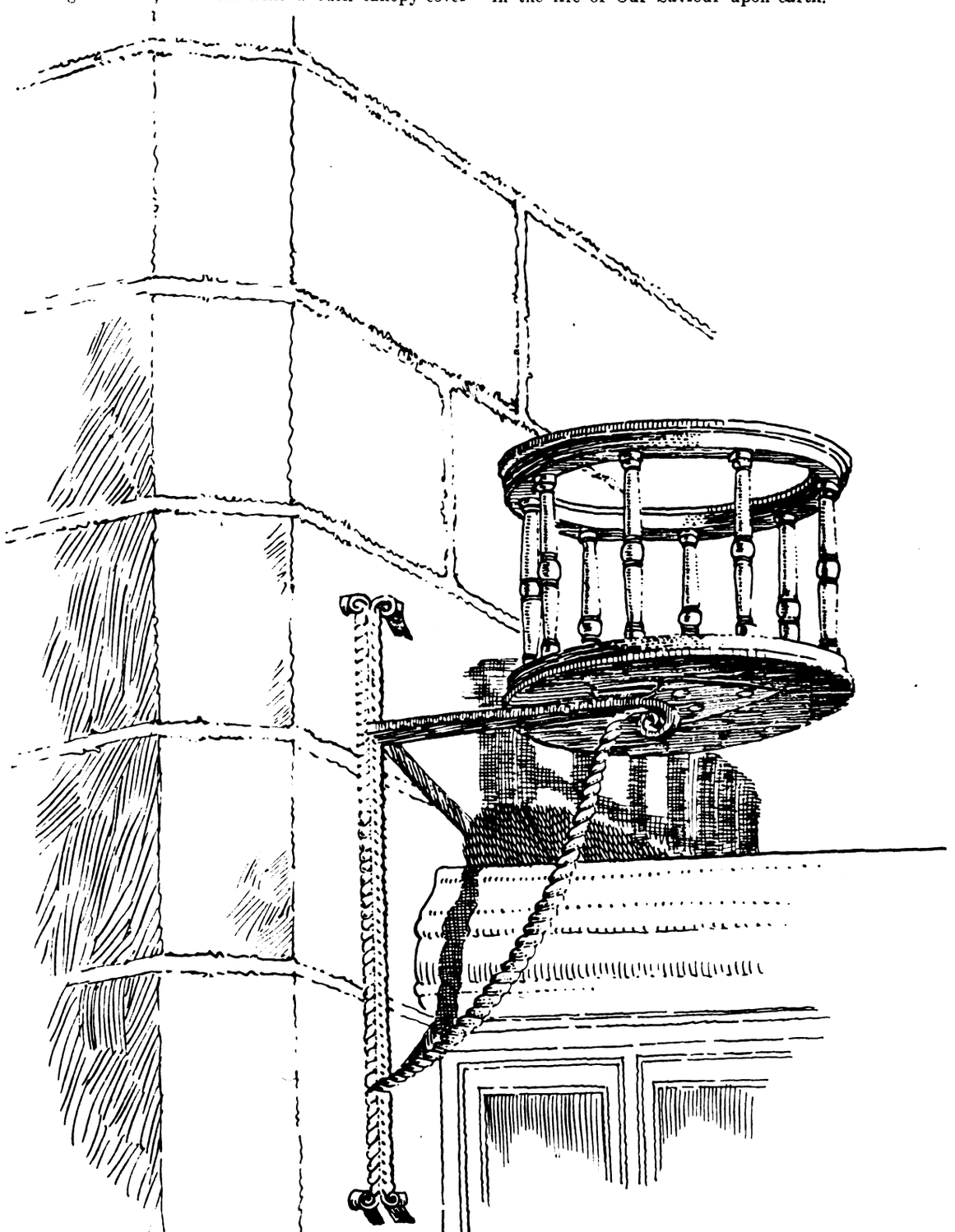
The nave is Perpendicular and consists of four bays, divided from the south aisle and chancel by four-clustered columns supporting pointed arches. The stiff carving of the capitals of the tower arch is Transitional, about 1150.

Other points to observe in the nave are the Perpendicular octagonal font, with excellent wooden canopy cover recently made by a local craftsman; the Decorated niche at the back of the pulpit, with remains of colouring; and the hour-glass stand by the pulpit.

The chancel is Early English. The chancel arch rests upon bracket capitals representing winged figures. One holds an open book and the other is playing an instrument of five strings.

On the north side is a sedilia bench.

The east window, by Watson, inserted during the restoration of 1864, is filled with painted glass depicting events in the life of Our Saviour upon earth.



Rough Sketch of Hour Glass Stand Blechingley Church. Surrey.

By Mr. WALTER J. BURROWS, F.R.I.B.A.

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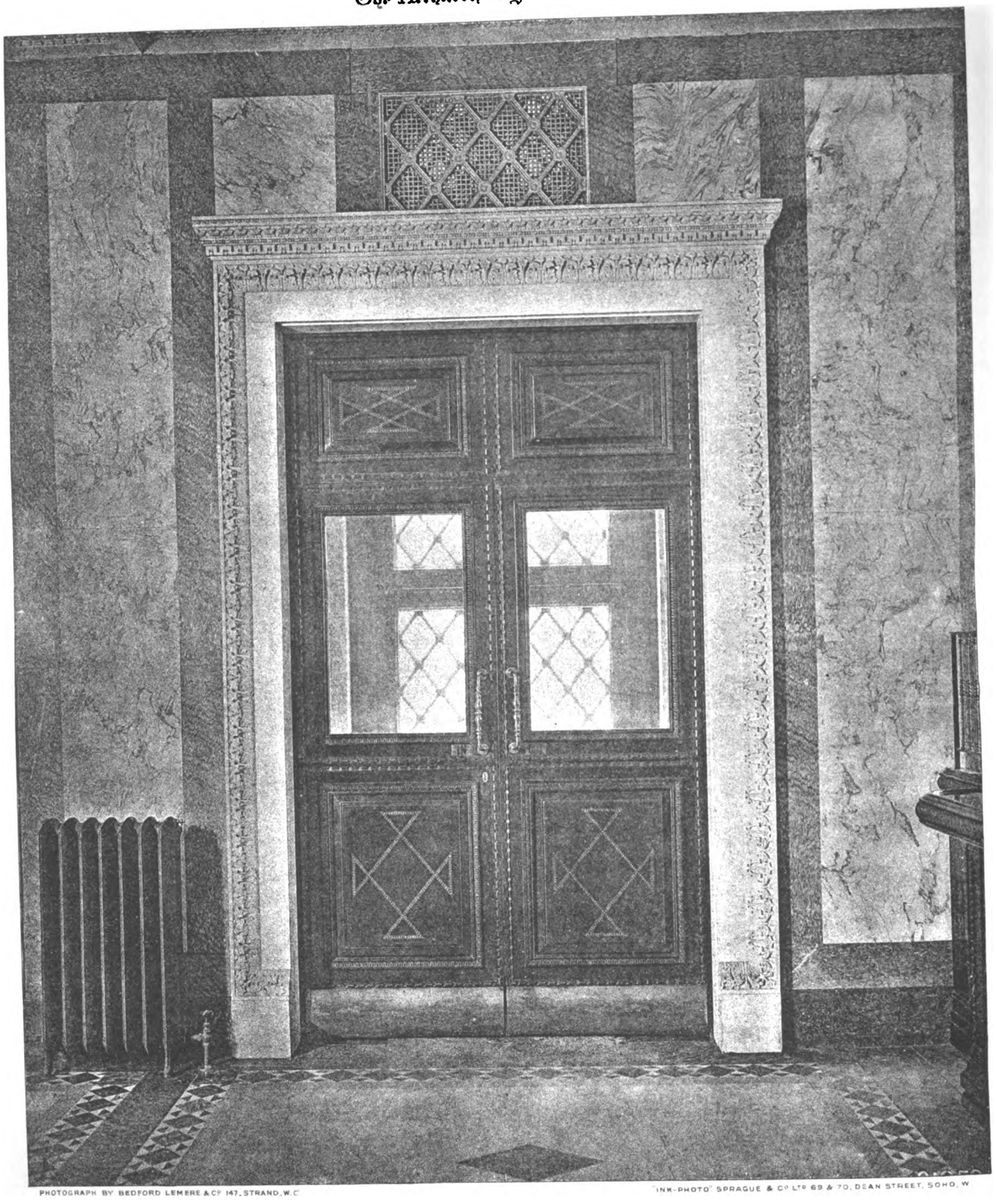
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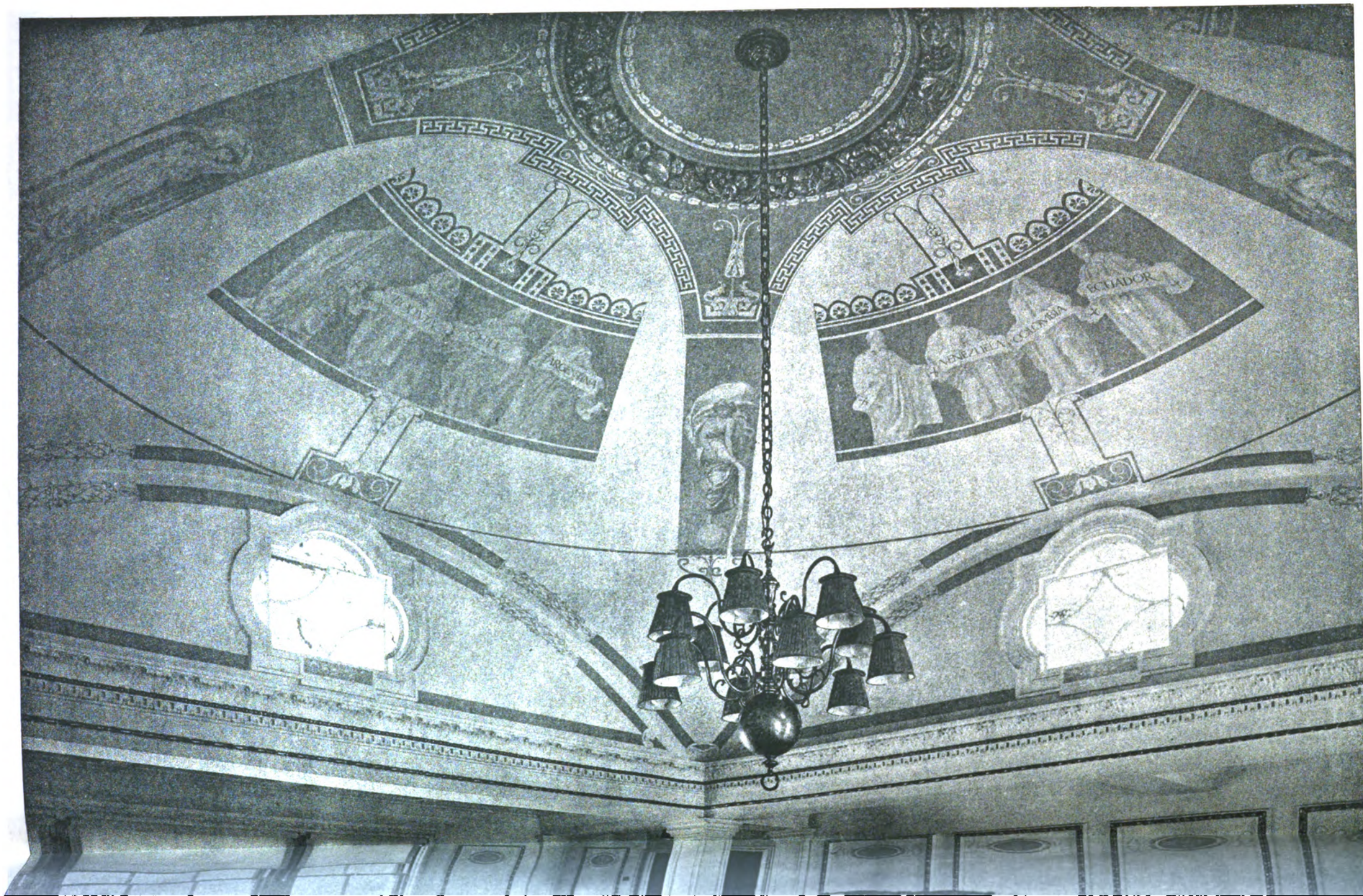
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THE BRITISH BANK OF SOUTH AMERICA, LIMITED, MOORGATE STREET, LONDON, E.C. INTERIOR OF BOARD ROOM.

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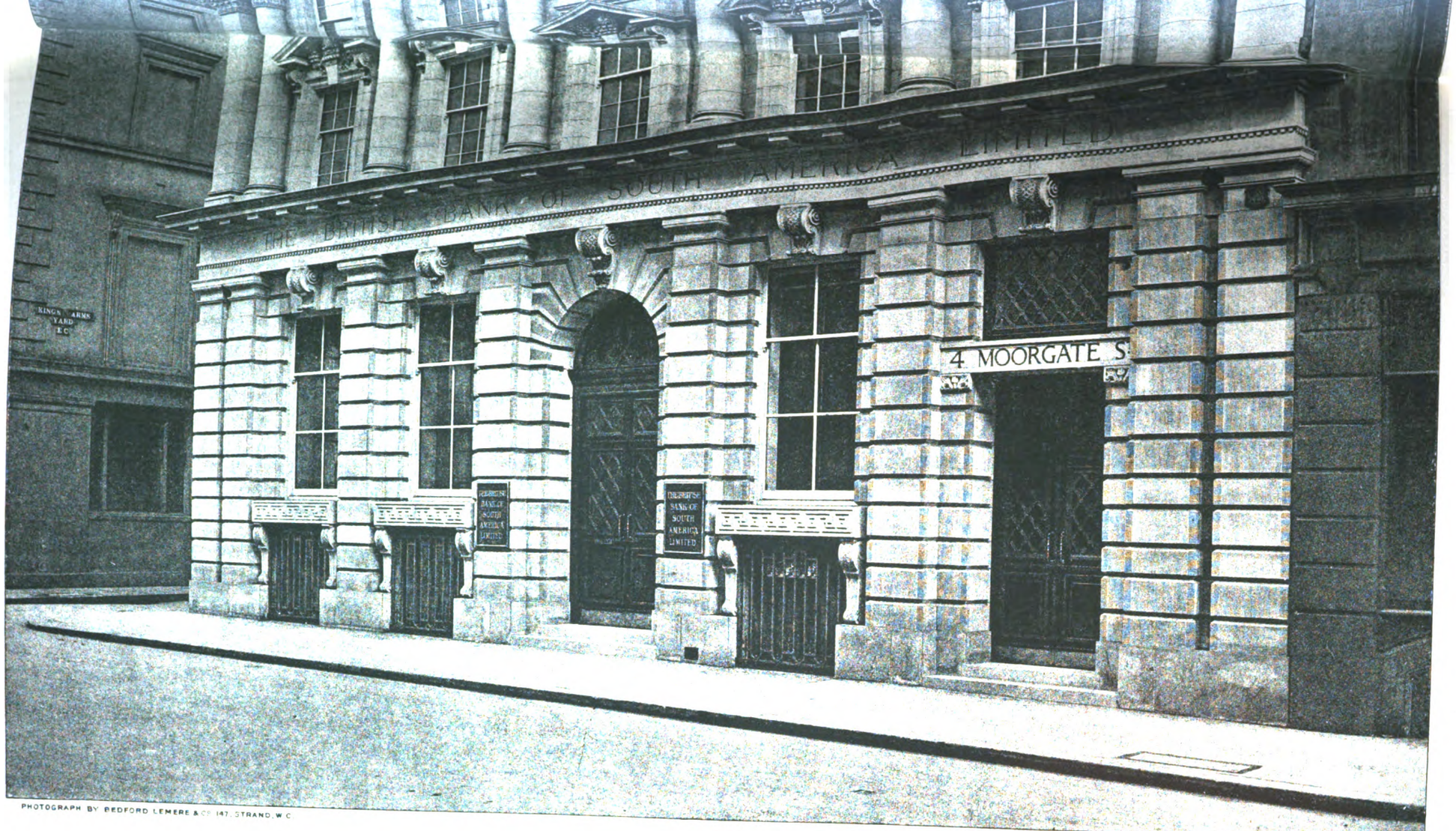
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There are several other coloured windows of varying merit.

South of the chancel is the Clayton chapel, of Early English date, though its principal features are now Perpendicular.

The brasses of Blechingley Church are interesting. On the floor of the Ham chapel, near the pulpit, is that to Thomas Warde (died 1541) and his wife Jane. Above their heads is a representation of the Trinity. At the east end of the south aisle, relaid in a new stone, are brasses of three groups of children with two coats of arms, all of about the date 1520. The two groups of six children were formerly in a slab adjoining that of Thomas Warde and his wife, and were thought by Thorne to have represented their children. There is no clue to the identity of the third group of five daughters.

In the south aisle there is also another relaid brass without inscription, representing an unknown lady with flowing hair. In groups of daughters the unmarried ones are shown with flowing hair, so I conclude that the memorial is to a maiden lady.

On the floor of the sanctuary is a brass (c. 1510) to a priest, with a shield above his head. The inscription is lost. The figure is tonsured, with long hair and usual mass vestments.

Still another brass is that on the west wall of the south chapel to R. Glyd, of Pendell, Treasurer of Christ's Hospital 1652-62, and Elizabeth, his wife.

Other memorials in the church include the altar tomb, between the chancel and south chapel, to Sir Thomas Cawarden (died 1559), whose connection with Blechingley has already been referred to. The brass plate, which was found in an old chest at Loseley and published by Mr. Kempe in the "Loseley Manuscripts," was not actually affixed to the tomb until about 1871 (V. S.A.C. 235).

In the south chapel (known also as the Clayton chapel), and entirely blocking up one of the windows, is a pretentious monument of white marble to Sir Robert Clayton of Marden (died 1707), "Lord Mayor (1679), and at his death Alderman and Father of the City of London, and near thirty years one of its representatives in Parliament." The monument was erected by Sir Robert during his lifetime for his own commemoration and that of his lady, and he made provision in his will for its maintenance in proper repair. Sir Robert stands in his robes as Lord Mayor, with the insignia of office; beside him Dame Martha, his wife, and between them is the figure of their son Robert, who died in infancy. On either side are weeping cherubs. On a curtain of white marble behind the figures is an inscription of extraordinary length and panegyric. It states that "it is but just that the memory of so good and so great a man should be transmitted to after ages, since in all private and public transactions of his life he left so bright a pattern to imitate, but hardly to be outdone."

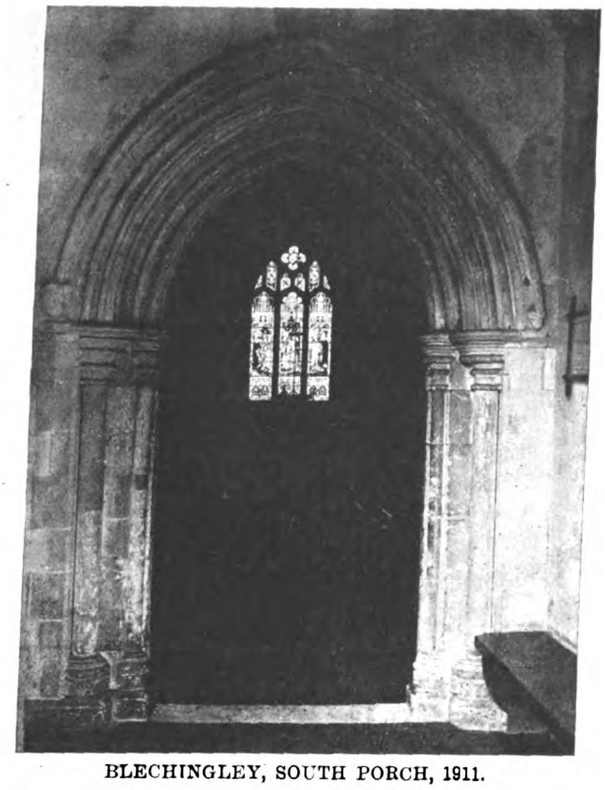
The inscription is attributed to his nephew and heir, Sir William Clayton.



BLECHINGLEY, 1911.

Sir Robert was a citizen of great fame in his day. At the Oxford Parliament in the reign of Charles II. he moved for leave to bring in the Bill of Exclusion.

Macaulay says of him: "Sir Robert Clayton, the wealthiest merchant of London . . . whose villa among the Surrey hills was described as a Garden of Eden, whose banquets vied with those of kings, and whose judicious munificence, still attested by numerous public monuments, has obtained for him in the annals of the city a place second only to that of Gresham." Another description of Sir Robert Clayton is by Dryden, who said that he was "as good a saint as usurer ever made."



BLECHINGLEY, SOUTH PORCH, 1911.

Clayton rebuilt the south front of Christ's Hospital in 1680-2.

The monument which is worth notice as a good example of the elaborate style of the time is the work of Richard Crutchen.

In the Ham chapel is the memorial of Sir William Bensley, R.N. (died 1809), and his wife, with an emblematical design by J. Bacon, jun. There are also mural tablets to members of the Kenrick family.

The churchwardens' accounts date from 1619, and the registers from 1538.

The living is a rectory in the gift of Emmanuel College, Cambridge, and the present rector is the Rev. A. H. de Fontaine, M.A. Among former holders may be mentioned Thomas Herring, D.D. (1731-7), chaplain to the King, who became Dean of Rochester in 1732, Bishop of Bangor 1737, Archbishop of York 1743, and Archbishop of Canterbury 1747. "He was an ardent Whig, and when the 1745 rebellion broke out raised £40,000 in defence of the Government, besides stirring up the people." It was for these services that he owed his translation to Canterbury. He died in 1757.

His successor was John Thomas, D.D., LL.D., rector from 1738 till 1774, when he was appointed Bishop of Rochester, which post he held until his death in 1793 at the age of eighty-two. "He adorned the purity of the Christian with the urbanity of the gentleman." He was buried in Blechingley Church.

In compiling these notes I have made quotations from the handbooks and histories by Murray, Ward, Adams, Thorne, Cox, Malden, Manning and Bray, and Morris. I am greatly indebted to Mr. J. Kenrick, honorary general secretary of the Photographic Survey and Record of Surrey, and to Mr. Walter J. Burrows, F.R.I.B.A., for their kind permission to reproduce the illustrations accompanying this paper.

THE Sheffield Town Council find it necessary to borrow a further sum of £11,553 in connection with the extension of the Town Hall, such sum being the estimated cost over and above the original estimate (prepared in May 1911), due to advances in the cost of materials and wages and certain alterations and improvements to the present buildings not included in the original estimate, but since found to be necessary.

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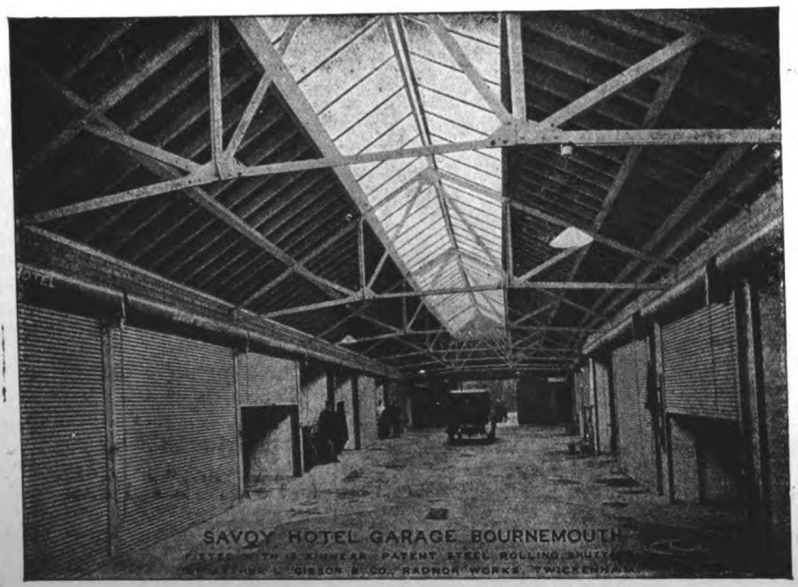
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A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Beaconsfield.—Baptist Church. Mr. T. Thurlow, architect, 25 High Street, High Wycombe.

Shenley Brook End.—Two houses, for Mr. J. Rodway.

Tingewick.—Proposed Hospital.

CHESHIRE.

Delamere.—Parish Church: alterations.

DERBYSHIRE.

Chapel-en-le-Frith.—Council School. Mr. G. H. Widdows, A.R.I.B.A., County Education architect, St. Mary's Gate, Derby.

Glossop.—House, Spire Hollin, for Mr. H. Fielding.

Four houses, Lee Mount, for Messrs. Olive & Partington.

High Peak.—Isolation Hospital: additions. Mr. C. Flint, architect, 5 The Quadrant, Buxton.

DEVON.

Colyton.—Working-class dwellings.

Torquay.—Burlington Buildings, Union Street. Mr. F. G. Moore, architect, 8-10 Fleet Street.

DORSET.

Gillingham.—Twelve working-class cottages.

DURHAM.

Craghead.—Additions and alterations to Stores; also two houses for the Craghead and Holmside Co-operative Stores. Mr. J. G. Burrell, architect, Market Place Chambers, Durham.

Easington Lane.—Council School.

Spennymoor.—House, Park Parade, for Mr. N. Bennett.

House, North Road, for Mr. W. S. Gill.

House, North Road, for Mr. A. Welsh.

Two houses, South Terrace, for Mr. J. A. Tighe.

West Hartlepool.—St. Luke's Church (550 sittings), Hart Lane and Tunstall Avenue (£7,700). Messrs. Lofting & Cooper (of London), architects.

ESSEX.

Ongar.—Elementary Council School, Lambourne: additions and alterations. Mr. G. T. Forrest, County architect, 73 Duke Street, Chelmsford.

Pitsea.—Explosives Factory: extension, for the British Explosives Syndicate, Ltd.

GLOUCESTERSHIRE.

Yate.—Y.M.C.A. buildings (£500). Messrs. La Trobe & Weston, FF.R.I.B.A., architects, 1 Unity Street, Bristol. Messrs. W. J. Powell & Son, contractors.

HAMPSHIRE.

Aldershot.—St. Augustine's Church Rooms (£2,500). Mr. P. Wells, architect.

Bournemouth.—Public Library, Westbourne (£2,000).

Southampton.—Offices: enlargement, for the Harbour Board (£4,400).

Winchester.—Three tenements, for the Cottage Improvement Society. Mr. T. Stopher, architect, 57 High Street.

HERTFORDSHIRE.

Hitchin.—Technical Institute (£4,000).

Letchworth.—Council School for 500 places.

KENT.

Beckenham.—Secondary School for 200 places. Mr. W. H. Robinson, County Education architect, Caxton House, Westminster, London.

Dover.—County School for Boys. Mr. Barwick, contractor (£10,220).

Maidstone.—Three houses, St. Philip's Avenue, for Mr. C. Walter.

Two houses, Sheal's Crescent, for Mr. J. J. Hunn.

Warehouse, &c., Hart Street, for Messrs. G. F. Clark & Co., Ltd.

Sittingbourne.—Butts Council School, Milton Regis: alterations, &c. Messrs. Bowes Bros. (of Milton Regis), contractors (£510).

Tunbridge Wells.—King Charles' Parish Hall.

Whitstable.—Handicraft buildings, Oxford Street. Mr. Browning, contractor (£680).

LANCASHIRE.

Ashton-under-Lyne.—Confectionery Works, Bardsley Vale: extensions, for Messrs. Kerfoot.

Liverpool.—Home for Imbeciles, West Derby: reinstatement and rebuilding. Mr. C. H. Lancaster, architect, Brougham Terrace, West Derby Road; also Walton Institution: laundry extensions.

Preston.—Market Offices, &c., Birley and Earl Streets. Borough surveyor.

Tyldesley.—Twelve houses, Manchester Road. Mr. D. Harrocks, builder, Shakerley Road.

LEICESTERSHIRE.

Leicester.—Sanatorium. Mr. A. H. Hind, F.R.I.B.A., architect, 3 Greyfriars.

LINCOLNSHIRE.

Gainsborough.—Council School, Ropery Road: additions. Messrs. Scorer & Gamble, AA.R.I.B.A., architects, Bank Street Chambers.

MIDDLESEX.

Acton Vale.—St. Thomas's Church (£6,500). Sir A. Blomfield & Sons, FF.R.I.B.A., architects, 6 Montagu Place, London, W. Messrs. J. Dorey & Co., Ltd., contractors, Distillery Road, Brentford.

Hanwell.—Public elementary school, Boston Road.

Hounslow.—House, Bath Road, for Messrs. Roper, Son & Chapman.

House, Bath Road, for Mr. J. Webb.

Sixteen houses, Denbigh and Kingsley Roads, for Mr. A. Westbrook.

Four houses, Lampton Road, for Mr. W. Wright.

MONMOUTHSHIRE.

Bargoed.—Sixteen (or more) houses, for the Gilfach Fargoed Garden Suburb, Ltd. Mr. G. Kenshole, architect, Station Road.

NORFOLK.

East Dereham.—Council School. Mr. J. E. Burton, architect, Victoria Chambers, Bank Plain, Norwich.

NORTHAMPTONSHIRE.

Oundle.—Council School. Messrs. Traylen & Son, AA.R.I.B.A., architects, 16 Broad Street, Stamford.

Peterborough.—Garage, Broadway. Messrs. Townsend (A.R.I.B.A.) & Fordham, architects, Cross Street.

NORTHUMBERLAND.

Hexham.—Hospital, Lough Lane.

NOTTINGHAMSHIRE.

Worksop.—Three shops and eight houses. Mr. J. Haslam, architect, 12 Newcastle Avenue.

SOMERSET.

Kingsbury Episcopi.—Six Council houses. Mr. J. Mathison, Council surveyor.

Radstock.—Bakery premises, Riverside. Mr. W. F. Bird, architect, The Island, Midsomer Norton.

Taunton.—School (£6,000). Messrs. Mitchell, Son & Gutteridge, architects, 9 Portland Street, Southampton.

STAFFORDSHIRE.

Great Barr.—Buildings for epileptics and mentally defectives.

Hanley.—Council School, Keeling's and Queen's Roads, Northwood.

Hednesford.—R.C. Church ("Our Lady of Lourdes"), Church Hill, Mount Pleasant.

Walsall.—Pleck Wesleyan Sunday Schools, Bescot Road, for 600 places (£4,500).

SUFFOLK.

Beccles.—Hospital (£5,000), for the Governors of Beccles Hospital.

Ipswich.—Proposed Central Library, Northgate Street. Workmen's houses (£1,400).

SURREY.

Godalming.—Church Room, Queen Street (£1,500).

Guildford. Isolation Hospital: alterations and extensions (£3,000 to £4,000).

SUSSEX.

Horsham.—West Street Brewery premises, Worthing Road: additions and alterations, for Messrs. Rice Bros.

WARWICKSHIRE.

Atherstone.—House, Dordon Road, for Mr. C. Clark.

Dordon.—Two houses, Birchmoor Road, for Mr. J. Stretton.

WORCESTERSHIRE.

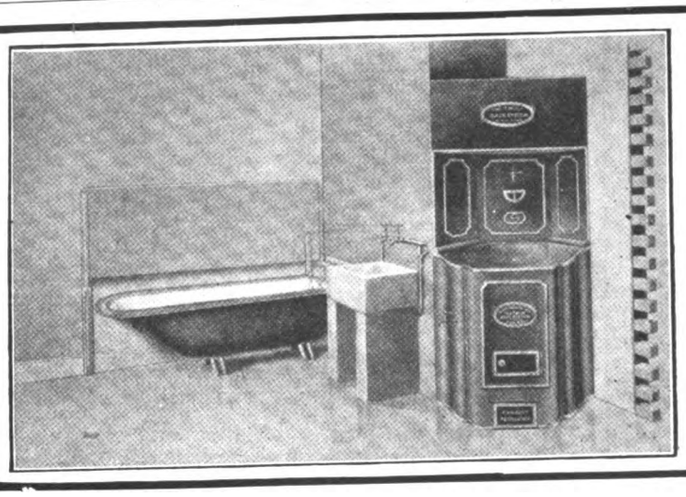
Evesham.—Sanatorium: alterations to the administrative block (£1,000).

Wyre Piddle.—Eight Council cottages, for Pershore R.D.C.

YORKSHIRE.

Adwick-le-Street.—Central and Woodlands Council Schools: head-teachers' houses (£700).

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ENGLAND—*continued.*

YORKSHIRE—*continued.*

Altofts (near Wakefield).—Club and Institute, Church Road. Mr. W. Hartley, architect, Town Hall Chambers, Wakefield.

Barnoldswick.—Council School for 1,000 places (£13,500).

Cottingham.—Hull Municipal Sanatorium.

Golcar.—Bakehouse, &c., James Street. Mr. A. Shaw, architect, Knowl Road.

Hull.—Municipal Secondary School for Girls.

Selby (near).—Sauce and Pickles Factory, Barlby Road.

Sowerby Bridge.—Picture Theatre, Wharf Street. Messrs. R. Horsfall & Son, architects, 22A Commercial Street, Halifax.

Wakefield.—Two houses, &c., William Street. Mr. H. Dobson, architect, City Chambers.

WALES.

Barry.—Cinema, Holton Road, for the Barry Cinema Company.

Bryn.—The "Royal Oak" Hotel: alterations, for the Rhondda Valley Breweries Company, Ltd.

Gilfach.—Workmen's Club.

Gilfach Goch.—Forty-one houses, for the Glenavon Building Club. Mr. E. I. Evans, architect, 55 Dunraven Street, Tonypandy.

Llanfair Caereinion.—Eight workmen's cottages, for the Llanfyllin R.D.C.

Ruthin.—Workhouse: infirmary (£4,500).

SCOTLAND.

Glasgow.—Buildings, Norse Road, Scotstoun, for the Scotstoun Estate Building Company (of Whiteinch).

Clergy House, Crownpoint Road, Mile End, for Christ Church Trustees.

Drill Hall, Caledonia Road, for the School Board.

Aerated Waters Factory, St. James's Street, for the Scottish Co-operative Wholesale Society, Ltd.; also Sawmill buildings and extension to tinware factory, Shieldhall.

Clyde Galvanising Works, Mavis Bank: rebuilding, for Messrs. Smith & McLean, Ltd.

Public Hall, corner of London Road and Summer Street, Bridgeton.

Schools, North Woodside Road and Braid Street, for Archbishop Maguire and others.

Rothesay.—Double Tenement, Battery Place (£6,000). Mr. G. M. McLintock, architect, 5 High Street.

IRELAND.

Fermoy.—Twenty workmen's cottages (£5,000).

Milford.—Seven labourers' cottages, for the R.D.C.

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 956. Jan. 13, 1914. — Drain Testers. The "Sanitas" Company, Ltd., and E. P. Kingzett, Locksley Street, Limehouse, London, E.—This invention relates to drain testers of the well-known type, consisting of a case formed of two halves connected by a spring tending to force them apart which is held closed by a winding of string and automatically opens when the string unwinds upon the tester being dropped down a drain. In such testers the case contains a charge generally consisting of phosphide of calcium or carbide of calcium or a mixture of these with or without other substances, and as both of these named substances are decomposed by air or moisture it is important to preserve them from decomposition by excluding air and atmospheric moisture as far as possible. Other substances, however, may be employed instead of those named so long as when liberated or set free in the drain to be tested strong smelling fumes or gas will be set free automatically. The case is formed of two half shells joined by a spring to force them open, in the manner of an oyster-shell, on releasing the retaining pressure. The one half shell is dome-shaped with a narrow flanged edge, the other half is made in the shape of a disc in which is stamped a circular groove to receive the edge or flange of the dome-shaped half when the shells are closed, and also fitted with a depression in the centre to more readily hold the charge and to prevent the charge from getting into the groove. To make the joint more perfect, that is, better sealed, this groove in the flat, round disc is filled with vaseline or grease. When the dome-shaped top is pressed down tight so as to well enter the said groove in the other half the flange of the dome is forced into the grease or vaseline in the groove and a perfectly air-tight joint is thus secured. The action of the spring steel wire is then held in check by means of string or binding wound round and round the compressed shells and finally finished off or sealed by means of wax or like substance to hold the binding in position

Fig. 1.

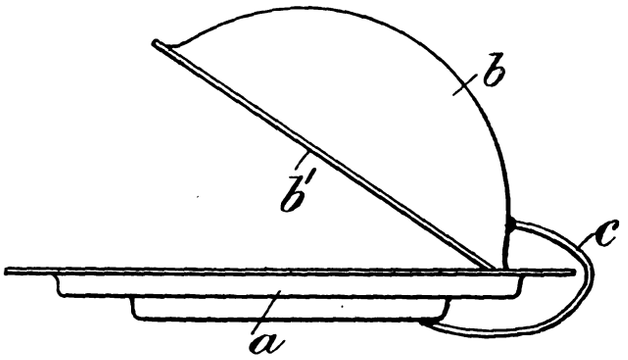
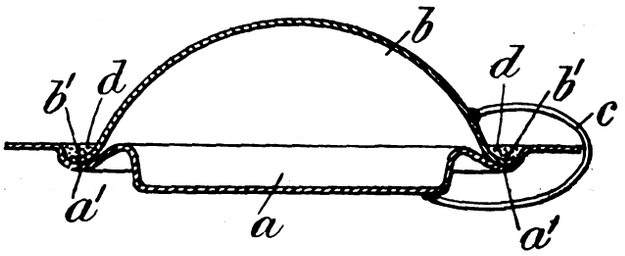


Fig. 2.



until it is required to use the appliance. Fig. 1 is a side elevation of the tester when open and Fig. 2 is a section of the same closed. In both figs. the string is omitted. A and b are the two halves of the case which are connected together by a spring wire c which tends to put the parts into the position shown at Fig. 1. The part a has in it a groove a 1 adapted to receive the flange b 1 of the part b and a seal d of vaseline or the like. June 17, 1914.

PATENT SPECIFICATIONS PUBLISHED JULY 2, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 5,921. March 10, 1913.—J. C. Butterfield, 5 Bloomfield Place, New Bond Street, W. Treatment of sewage and like organic refuse.

13,257. June 7, 1913.—Dated under International Convention June 10, 1912. Franz Watzke, Gartitz, near Aussig, Austria. Apparatus for heating buildings.

13,336. June 9, 1913.—A. E. Wheeler, 12 Theobalds Road, Holborn. Systems of hot-water circulation.

13,941. June 16, 1913.—W. J. Wright, architect, and J. G. Rose, architect, 1 Hospital Road, Bloemfontein, South Africa. Securing of ventilating casings, grids, and the like in the walls of buildings.

14,309. June 20, 1913.—Albert Sommer, Newhausen-on-the-Rhine, Switzerland. Measuring rules and gauges.

15,880. July 10, 1913.—Frederick Pasehke, 4 Fellows Road, Hampstead, N.W. Manufacture of compound glass.

16,550. July 18, 1913.—Drummond Bone, Warren Mount, Freshfield, Lancs, and R. Waywood & Co., Ltd., Falmouth Road, Great Dover Street, S.E. Lifts.

20,197. Sept. 8, 1913.—Leopold Myers, Charlotte Street Pen Works, Charlotte Street, Birmingham. Drawing compasses.

20,204. Sept. 8, 1913.—L. H. Teale, 1 Heathfield Terrace, Far Headingley, Leeds. Domestic fireplace.

21,343. Sept. 22, 1913.—G. W. Sutcliffe, Whingarth, Marple, Chester. Latches for securing doors and the like.

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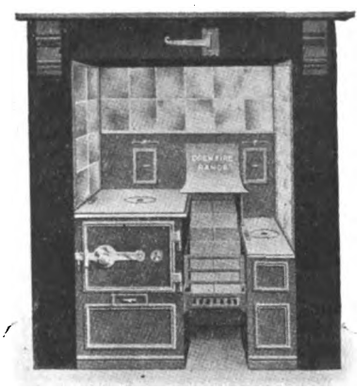
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21,740. Sept. 26, 1913.—Dated under International Convention Dec. 28, 1912. Hans Staben, architect, Dorpstedt, near Hohestedt, Germany. Corrugated metal sheets for use in building constructions.

24,913. Nov. 1, 1913.—James Farley, Cecil House, Hertford. Low-pressure hot-water heating apparatus of the accelerated type.

25,233. Nov. 5, 1913.—J. W. Setten and Walter Bull, 118 Livery Street, Birmingham. Drawing compasses.

27,572. Dec. 1, 1913.—H. S. A. Warren, 79 Millbrook Road, and F. W. Smith, 5 Thornbury Avenue, Southampton. Internal lining or casing for damaged lavatory wash basins, water closets, and the like vessels.

29,892. July 1, 1913.—Hugo Junkers, Frankenburg, 68 Bismarkstr, Aachen, Germany. Water-heating apparatus for geysers.

1,172. Jan. 15. 1914.—Benjamin Dyson, Garner's Cottage, Delph, Saddleworth, Yorks, and H. G. Chancellor, 13 Clerkenwell Road, London. Ornamental glass.

1,211. Jan. 16, 1914.—Thomas Arthur and J. A. Partridge, Wallows Lane, Walsall. Glazing roofs, greenhouses, garden frames, and like structures.

Any of the above specifications may be obtained from J D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Dublin Civic Exhibition.

SIR,—From time to time during the past few months visitors to Ireland have been heard to remark that some of their friends in England on hearing that they intended to come to Ireland, expressed concern as to whether, in view of the statements which have appeared regarding the tension of feeling and unrest in this country, a visit would be advisable or prudent.

Without in the least attempting to underrate or ignore the strong feeling which prevails in Ireland in regard to the general situation and the questions of far-reaching importance involved therein, the Executive Committee of the Civic Exhibition, Dublin, venture to offer in the most emphatic manner a reassuring declaration that, notwithstanding the circumstances referred to, all who are at all disposed to come to Ireland during the approaching season may arrange to do so with absolute confidence.

This statement is one which could be supported by argument at length if time and space permitted; but for the moment, it may be sufficient to remark that however much disagreement there may be in regard to many questions there is a general concurrence of feeling in Ireland in favour of encouraging as many visitors as possible, and also in endeavouring to make sure that they shall have no reason to regret their experience here.

Will you permit us also to draw attention to the fact that in addition to the many permanent attractions which Ireland possesses for the tourist, there will be this year one of exceptional interest in the Civic Exhibition which is to be opened in Dublin on July 15, and will continue till August 31.

It will be the first Exhibition exactly of this kind and scope to be held in the United Kingdom.

The main purpose of the enterprise is to develop public opinion and practical interest in all that tends to the welfare of a civic community, especially in regard to the housing problem.

Combined with this central purpose, the forthcoming Dublin Exhibition will be of many-sided and varied interests. It will show Irish life as it is; it will illustrate in vivid and practical form recent advances and achievements; and it may help to promote the solution of some of the problems of to-day and the immediate future.

The project has been taken up with much enthusiasm throughout the country and a large success is assured, all the railway companies having offered exceptionally favourable facilities for visitors.

It may be added that in addition to the educational and instructive elements, a very complete plan of amusements and attractions has been organised, including bands, tea gardens, dining pavilions, theatre, national competitions in music, singing and dancing; children's folk dances, torchlight tattoos, &c.

To sum up, our Committee (which is representative of all sections of the community, including Government and Municipal Departments, the Chamber of Commerce, and practically all the other organisations and associations in Dublin) venture to say with all heartiness and confidence to all who can make any holiday trip this year—choose Ireland.

The smiling aspect of the country invites a visit, and the people will endorse the attractions of Nature with a cordial welcome. All things are ready. Come, and experience will justify the choice.—I remain, yours faithfully,

ISABEL ABERDEEN.

Scenic Disfigurement.

SIR,—The Scapa Society has particular reason to join in the thanks and congratulations of which Dr. James H. Stowers and the Regent's Park Protection Association are the object. We have from the first urged that the only enduring guarantee against the advance of advertising disfigurement was to be found in the existence of voluntary bodies of residents, prepared to exercise constant vigilance and willing, if necessary, to act with vigour in the defence of the general amenities of their district. In the Regent's Park Association we find the ideal realised and justified by its work.

In this case the exercise of moral influence has sufficed. Recognition is due to the promptitude of the St. Pancras Borough Council in asserting the interest of the ratepayers, and, let me add, to the directors of the Regent's Canal Company for their readiness to undo what had been thoughtlessly done.

But it is necessary to draw attention to a fact of which none of those who have written on the subject appear to be aware. If the safety of public pleasure grounds depended upon the exercise of moral influence they would be in indefinite peril. The conditions would in few cases be so favourable as in that of Regent's Park. Happily, the Advertisement Regulation Act of 1907 furnished local authorities with statutory powers of control. In boroughs and in the larger urban districts by-laws can be made "for regulating, restricting, or preventing the exhibition of advertisements in such places and in such manner or by such means as to affect injuriously the amenities of a public park or pleasure promenade, or to disfigure the natural beauty of a landscape." Thirty boroughs and urban districts have already made use of this Act, and the number of protected areas is constantly increasing. If other places remain in jeopardy the fault lies with the residents, who have not compelled their representatives to take timely steps to safeguard their open spaces and view points.

A word of explanation must be added. For the metropolis the local authority under the Act is the London County Council, and that body is still engaged in scheduling the places which it desires to protect. Delay is to be regretted, for advertisements existing at the time of the making of the by-law, however disfiguring they may be, are allowed five years' grace.—I am, Sir, your obedient servant,

RICHARDSON EVANS,
Chairman, Scapa Society.

The Keir, Wimbledon Common, S.W.

Proposed R.I.B.A. New Charter.

SIR,—As you are aware, we have been recently getting into touch with the Licentiates of the British Isles to discover their views upon the above Charter, and in numerous cases suggestions have been made in favour of resigning from the Institute and joining forces with the Society of Architects.

May we, through the medium of your paper, particularly ask all Licentiates to defer resignation until the actual form of the New Charter has been decided upon by the Council.

Once connection is severed with the Institute reinstatement will be impossible, whereas by remaining Licentiates we can claim some part in the welfare, if not the control, of that body.

It is even possible that in time the Corporate Members may realise that the Licentiates' Class have some power for good or evil, and we may yet assist in transforming a "divided camp" into a powerful and honoured Institution.—Yours faithfully,

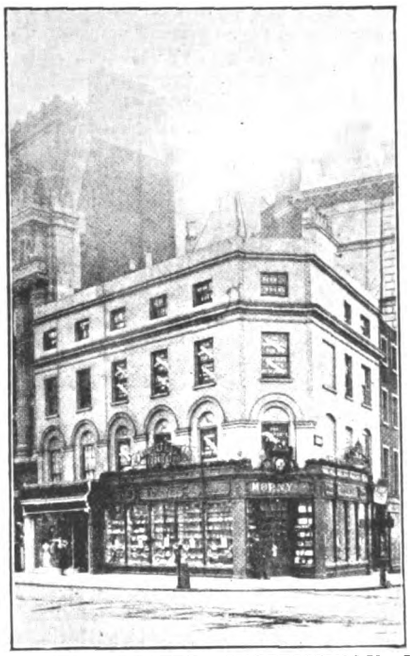
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THE ARCHITECT

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FORTHCOMING EVENTS.

Friday, July 17.

Architectural Association : Annual Prize Giving, at 2.30 P.M.
Architectural Association Camera, Sketch, and Debate Club : Excursion to Bayeux and District (July 17-31).
Royal Institute of British Architects : Reception to International Garden Cities and Town Planning Association, at 8.30.

Tuesday, July 21.

Bristol and Gloucester Archæological Society : Summer Meeting at Warwick (July 21-23).

Wednesday, July 22.

Annual Cricket Match between Royal Institute of British Architects and Architectural Association, at A.A. Ground, Elstree.

Saturday, July 25.

Victoria and Albert Museum : National Competition Exhibition opens.
Architectural Association : Summer Visit to Blenheim Palace.

Monday, August 3.

Summer School of Town Planning opens in the University of London School of Architecture, at University College (August 3-15).

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

To some of the domestic architecture of the year we have already referred in speaking of the work of the members and associates of the Royal Academy. There is besides a plethora of examples, to some of which we may now give attention. Mr. E. Guy Dawber is represented by three designs. "Hampworth Lodge, Wiltshire," is reminiscent both in feeling and draughtsmanship of the work of Norman Shaw; brick, half-timber, and stone are used in the manner of the departed master; a formal garden is very excellently contrived and is both interesting in itself and marches well with the house. "The Bowling Green, Milborne Port," is a glorified cottage in the vernacular of the early Renaissance, with a symmetrical *corps de logis* and picturesque gabled asymmetrical extensions. "A House on the South Coast" is a mansion of later Renaissance type, symmetrical, dignified, and stately, in which motifs of acknowledged propriety are picturesquely composed, without, however, any special feeling of suitability for the south or any other coast.

Mr. C. E. Mallows contributes two frames showing "Additions to 'Canons,' Edgware," the one containing two views of the south terrace and south gardens, the other two views of the entrance front and north pond gardens. These drawings are charming water-colour pictures by Mr. H. Waring, and induce reflection on the wide variation in the manner of presentment adopted by architects in showing their designs to the public in the architectural room of the Royal Academy. All kinds of drawings are to be found from geometrical plans, elevations, and sections, coloured and shaded or even in plain line, to such purely pictorial paintings as those by Mr. Waring illustrating the designs of Mr. Mallows.

"Radbroke Hall, Higher Peover, Cheshire," by Mr. Percy S. Worthington, is an example of the eighteenth-century stately and formal house, with a pediment and portico in centre and lower flanking wings. High green slate roofs give dignity and mass to the design. Mr. T. Edwin Cooper also adopts steep slate roofs with high parapets to the external walls in his design for "Apley Grange, Harrogate, Yorkshire," which is an eighteenth-century plain and substantial red-brick house, relieved by white window frames and sashes and by external louvred shutters. The drawing exhibited shows how tennis court and bowling green are utilised as the main elements—and excuse, shall we say?—for a formal garden. Many a client who would jib at a formal garden *per se* would be delighted with the idea of these playing-fields, which may easily be presumed to connote seats and alcoves, yew hedges, and even summer-houses, &c.

Mr. W. Harold Hillyer has two drawings illustrating his design for "Brantham Court, Suffolk," one a general view of the south front, the other a detail of the entrance court. A brick house with stone mullions and transomed windows is built up of a symmetrical *corps de logis* with asymmetrical wings, with which fine chimneys, tile roof, and picturesque gables go to make a charming composition. The detail shows a square projecting porch with room over which, terminated with straight parapet, makes a piquant contrast to the gables elsewhere employed. "Symington Lodge, Lanarkshire," by Mr. Andrew N. Prentice, is based on eighteenth-century motifs. The pen-and-ink drawings indicate that the main walling is of dark material with lighter brick quoins, whilst stone quoins are employed on the central bay of the garden front, the windows, doors, and pediments. Mr. Prentice also exhibits his design for "Further Barton, near Cirencester," where he has infused a Cotswold feeling in a house all of stone, with flat bays, gables, and mullioned and transomed windows.

Recognition is now being given by architects at the present day to the fact that old work provides examples not only of the closely spaced half-timber method, but of a construction in which the timbers are more widely spaced, analogous, we might say, to steel-framed structures of the present. An instance of such timber-framed construction is seen in Mr. Maurice E. Webb's design for "Ellen's Farm, Rudgwick, Sussex." Here bays and windows wholly of timber combine with many gables to produce a picturesque ensemble of distinctive character.

"Alterations and Additions to Wancom Edge, Compton, Surrey," by Mr. Ernest Emerson, are so extensive that very little of the original is visible, and there results a picturesque house of essentially modern type of one storey in brick and plaster, with a low-pitched tile roof and dormers and a loggia with columns. In Mr. William D. Caröe's "Enton, Witley, Surrey," we have the "remodelling and conversion of an old Surrey barn," in which also the original structures of house and barn have become hidden by the new fronts with which they are overlaid and the new addition that connects them and welds the whole into a picturesque but rather fidgety composition, accentuated by the sloping ground on which the buildings are placed.

Mr. M. H. Baillie Scott's "House at Short Hills, New Jersey, U.S.A.," is another instance of the adaptation of timber-framing, widely and irregularly spaced, to which we have already alluded. The timber-framing is

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filled with plaster surfaces and the whole crowned with purple tile roofs. The house occupies three sides of a quadrangle, and one need hardly say is a picturesque composition. Another house by Mr. Baillie Scott is "The Cloisters," Avenue Road, Regent's Park, the *rationale* for the name of which does not appear on the drawing exhibited, which shows an almost symmetrical long front with central projection and others at the ends, en echelon, all gabled. Excessively small windows and much plain brick surface give a feeling of breadth. A design for "House in Poland" shows a further example of Mr. Baillie Scott's latest manner.

Pleached alleys and a fountain are features of the lay-out of "Cottages on the Duchy of Cornwall Estate at Kennington," by Messrs. Adshead & Ramsay, and interest is given to the otherwise severely Georgian treatment of the cottages by the introduction of porches formed of treillage painted green and covered with copper roofs.

NOTES AND COMMENTS.

WHILST we cannot but regret the decision that has been reached to pull down the old houses Nos. 55 and 56 Great Queen Street, London, for the enlargement of the premises of Freemasons' Hall, we are forced to recognise, without expressing any opinion as to the merits of this particular case, that occasions must inevitably occur in which the destruction of old buildings, even though of high historic and æsthetic value, is an imperative necessity. In yielding to such necessity in the twentieth century we are but following the example of every age in the past. The doctrine that all that is old should be preserved at any cost is one of essentially modern growth; and not only necessity but preference for modernity would clearly appear to have been the ruling motive that induced the destruction of old work both in mediæval and renaissance times.

The view taken by the Establishment Committee of the London County Council in respect of payment on account to the contractors for the new county hall is one that cannot be allowed to influence generally the usual form of contract providing that such payment should only be made for work executed and fixed. It is only in an exceptional instance that it would be permissible for an architect to advise his client to make payments on account of goods supplied but not fixed. The report of the Establishment Committee of the London County Council states:

"We have considered an application by Holland & Hannen and Cubitts, Ltd., the contractors for the superstructure for the new county hall, that advances may be made in respect of materials delivered on the site but not fixed. Clause xxv. of the contract with Holland & Hannen and Cubitts, Ltd., provides that, subject to certain conditions, payments on account 'shall be made to the contractors by the Council at the rate of 90 per cent. upon the value of permanent work from time to time executed and fixed on the site,' but there is no provision in the contract for payments in respect of materials specially worked and delivered on the site but not fixed. We are advised, however, that, having regard to the value of the materials delivered and waiting to be fixed, there would be no objection to further advances being made to the contractors generally under the contracts without prejudice to any of their liabilities and obligations under the contract and to the rights and powers of the Council thereunder, and subject to the accounts being adjusted from time to time after the work is recommenced on the site, such adjustments to be completed unless otherwise agreed in writing within six months from the date of recommencement of the work. We think it desirable that such advances should be made having regard to the abnormal demands which will obtain when the present labour dispute in the building trade is settled, to the delay which may arise if the material worked specially for the new county hall is not delivered by the time by which it is required, and to the possibility of the sub-contractors suspending their operations on work relating to the new county hall; and we submit a recommendation with this object. No advance will be made without a certificate by the architects. We recommend—

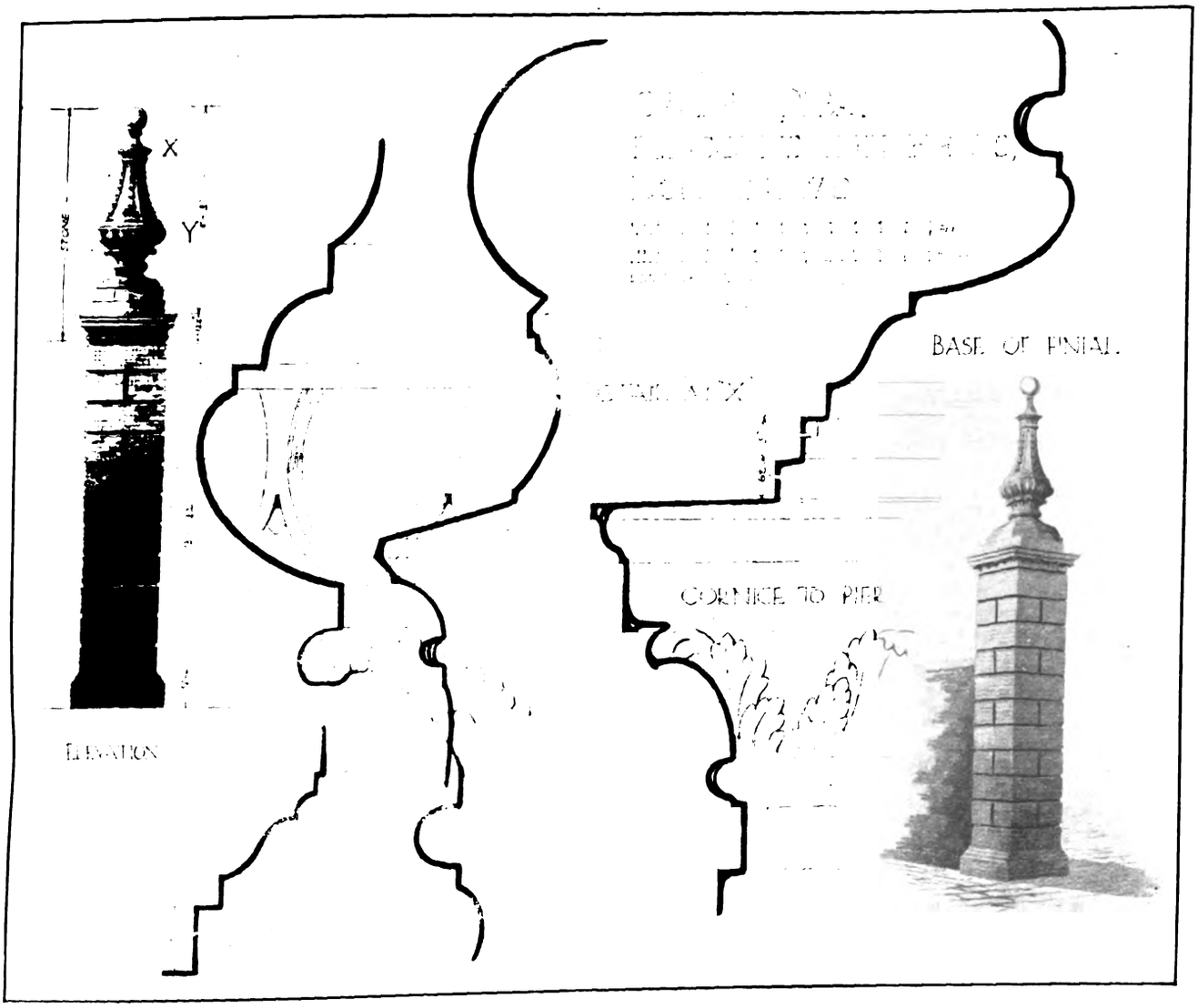
"That notwithstanding the terms of Clause xxv., relating to payments on account, of the contract with Holland & Hannen and Cubitts, Ltd., the contractors for the construction of the superstructure of the new county hall, the architects be authorised to issue certificates for further payments to the contractors generally on account of the contract, subject to the accounts being adjusted from time to time after the work is recommenced on the site and to such adjustments being completed unless otherwise agreed in writing within six months from the date of recommencement of work."

The circular letter to the Press in which the desire of the Postmaster-General to utilise British-grown timber for telegraph and telephone poles is expressed, together with his disappointment at being offered only a few hundreds of the many thousands he requires, either shows intense ignorance or is a mere piece of window-dressing. It is all very well to say that *Pinus sylvestris*, commonly known as red fir or Scotch pine, and *Larix europea*, or larch, "are easily and commonly grown in the United Kingdom," and to express the hope "that home growers and merchants may yet make fresh or renewed efforts to compete for a share of the business," but it appears that it was only in 1909, "in particular," that attempts were made to attract supplies of home-grown timber. Mr. Hobhouse may be unaware of the fact, but "the Department's expert officers" know very well that you cannot grow either *Pinus sylvestris* or *Larix europea* in five years to a sufficient size for telegraph poles. When the trees that the Department are now buying were planted, Swedish and Norwegian poles were obtainable at prices that gave no chance to home-grown timber. Now the supply from overseas is scarce and dear, and if British growers had the stuff present-day prices would be fairly remunerative. But if the Postmaster-General really wishes, for patriotic reasons, to use British-grown timber he must be prepared to make firm contracts that his Department will accept delivery of trees planted to-day when they have sufficiently grown to make good telegraph poles. It would be far too risky a speculation to plant Scotch fir and larch in the expectation that the Post Office would provide a market. By the time the trees were ready we should probably have nothing but reinforced concrete telegraph poles or, more likely still, there would be no poles, as all telegraph and telephone messages would be transmitted by wireless. The Forest of Dean is a clear object-lesson. When it was planted to supply "hearts of oak" for the Navy nobody dreamed that before the trees were ready all our warships would be built of steel. The planting of timber in the United Kingdom as a commercial venture is no better than a gamble in futures of the wildest description.

Foremost amongst the work of the British School in Rome during the past year has been the activity of Dr. Thomas Ashby, Director of the School, who has been working partly in or near Rome, and partly in Malta. While continuing his work on the Roman aqueducts, which will ultimately be published in book form, he has found time to write an article for the *Journal of Roman Studies* on "The Roman Period in Malta," two for the *Burlington Magazine* on "Turner in Rome," and a fourth for the forthcoming seventh volume of the School's *Papers* (which will now be published annually instead of occasionally) on "Drawings of Ancient Roman Paintings in British Collections, especially at Eton." He has also corrected the proofs of the map of the Campagna of 1547, by Eufrosino della Volpaia, which is to be published for the Vatican Library. In Malta he carried out

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"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.



From a Prize Drawing by "PLATO."

excavations in the Ghardalam cave, opposite the Birzebbugia valley, and near the Punic reservoir.

These explorations, the cost of which was generously defrayed by the British Ambassador, Sir Rennell Rodd, and by Miss E. L. Douglas, led to the discovery of a curious building with three still existing columns and of pottery of the Punic type. The Director also gave two demonstrations in the Forum, dealing with its Republican and Imperial history, and delivered a course of lectures for students on Roman topography, as well as a popular discourse to the British naval cadets during their visit to Rome.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

WE are disappointed in not having received a larger number of examples of pen-and-ink perspectives of eighteenth-century external doorways, a subject which should have proved attractive from the usefulness of the study under present-day conditions.

"Plato" has given us an excellent example from the Judges' House at Salisbury, in which occurs the not unusual composition of a pedimented doorway with a window over, a motif of which instances are to be found in some of the domestic work now on exhibition at the Royal Academy. As usual, "Plato's" drawing is effectively rendered.

"Toga" has selected the entrance doorway to Trinity House, Quayside, Newcastle-upon-Tyne, a simple treatment of Doric columns, entablature, and pediment, as a surround to a plain semicircular opening. "Toga's" drawing is a little scratchy and lacking in force. He appears to use a pen lacking in flexibility for pen-and-ink work.

"Shinio" has drawn an effectively designed doorway from Egerton House, Chester, the motif of which is a straight frieze and cornice supported on carved trusses with a cranked architrave around the door opening. The drawing is strongly rendered.

We award prizes of one guinea each to "Plato" and "Shinio," and with this month's competition are able to announce that the winner of "The Architect" Travelling Studentship for this year is Mr. Charles S. Carter, who has contributed with great regularity much excellent work under the *nom de plume* of "Plato."

COMPETITION NEWS.

ALTRINCHAM.—At the last meeting of the Cheshire Education Committee the recommendations of the County Plans and Buildings Sub-Committee as to the competitive plans for the proposed new Council school in Prince's Road, placed first, second, and third by the assessor (the county architect), and of the District Administrative Sub-Committee, who had selected the plans placed second, were considered. The three sets of plans were submitted for

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inspection, and the county architect explained the merits and demerits of each, while the chairman of the Altrincham sub-committee gave the views of his committee and the reasons for their selection. After careful consideration of each set of plans it was resolved: "That the design placed first in the competition by the assessor be selected as the plans for this proposed school, and that the authors, Messrs. Sankey & Cubbon, architects, Manchester, be appointed the architects for the erection of the school in accordance with the county regulations governing such appointments." Mr. J. Arnold moved that the recommendation be referred back. There were sixteen members present at the meeting of the Administrative Sub-Committee, and it was contended that their selection was better than that of the assessor. After further discussion the minutes were referred back in order that the observations of the District Sub-Committee might be placed before the County Plans and Buildings Sub-Committee.

BARNSLEY.—The competitive designs for the proposed Town Hall at Barnsley, for which the Council offered premiums value £100, £50, and £25 respectively, have been inspected by the assessor, Mr. Herbert T. Buckland, of Birmingham, who has submitted his report to the Council's Town Hall Committee. The prize-winning architects are as follows: 1 (£100), Mr. P. H. Topham, Manchester; 2 (£50), Mr. W. C. Laidlaw, Edinburgh; 3 (£25), Messrs. Clough & Monell, Chelsea. The Town Hall Committee recommend that the plans of the winner be accepted.

BOLTON-UPON-DEARNE.—The Urban District Council have adopted the recommendations of Mr. Charles Hadfield, Sheffield, the assessor of the competitive designs submitted for the proposed housing scheme, as follows:—(1) £50. Mr. G. F. Pennington, of Messrs. Garside & Pennington, of Pontefract and Castleford. (2) £50. Messrs. Matley & Mills, of Manchester. (3) £25. Messrs. Franklin & Deacon, of Luton. This is the Council's second housing scheme, and provides for the erection of some 310 houses at a probable cost of about £70,000.

BRADFORD.—The Street Improvement Committee of the Corporation have decided that competitive designs be invited by public advertisement for planning the central area, and that three premiums of £500, £300, and £200 be offered.

CANBERRA, AUSTRALIA.—The Australian Government announces an International architectural competition for the purpose of selecting the architect of the Parliament House and possibly incidentally an additional architect for other Government structures of the new federal capital city, Canberra. Only tentative outline sketch designs for the buildings are requested, and eight prizes are offered, aggregating £6,000, the first being £2,000, in addition to commission for service at the scale of the Royal Institute of British Architects. The designs may be submitted in either Melbourne or London by the end of March, and will be judged by the following jury of architects, whose decision will be final: Messrs. George T. Poole (of Australia), John J. Burnet (of London), Victor Laloux (of Paris), Otto Wagner (of Vienna), and Louis H. Sullivan (of Chicago). The programme will be issued to any practising architect on application to the High Commissioner for Australia in London, or any British Ambassador, to whom copies are being forwarded.

GLASGOW.—The Carlyle Memorial Committee are now desirous of erecting a suitable memorial to Thomas Carlyle, and invite Scottish artists and sculptors to contribute designs therefor, said designs to be completed by Sept. 15.

LONDON.—The design submitted by Mr. G. Drysdale, A.R.I.B.A., has been selected in competition for the proposed memorial altar in Wimbledon Catholic Church to Fr. Kerr, S.J.

LONDON.—The Selection Committee of the Captain Scott Memorial, consisting of the Hon. Harry Lawson, M.P., Sir Edgar Speyer, Sir Thomas Brock, R.A., and Mr. Lionel Earle, Secretary of his Majesty's Office of Works, have recently been inspecting and considering the models and designs submitted by the six sculptors invited to compete for a memorial in London to Captain Scott and his companions. Their unanimous choice fell upon the model to which the motto "Pro Patria" was attached, and this proved to be the design submitted by Mr. Albert H. Hodge, of Bedford Gardens, Campden Hill. The designs will be on view during the week from ten to five o'clock at the Structural Laboratory of the Imperial College of Science, Prince Consort Road, South Kensington. Presentation of a visiting card will admit.

LONDON.—Messrs. W. E. Whiteside and James Caslake, Ltd., announce an interesting holiday competition open to architects and students of architecture and the allied arts for drawings or photographs of old metal work. Prizes of £5 5*s*., £3 3*s*., and £2 2*s*. are offered and non-prizewinners may also offer their photographs or drawings for purchase by the firm. Further particulars may be obtained from Messrs. Whiteside & Caslake, 4 New Burlington Street, Regent Street, W.

SOUTHAMPTON.—The Borough Council at their meeting last week agreed to purchase two sites at a cost of £800 and £8,274 respectively for the erection of workmen's dwellings. It is proposed to obtain designs in open competition.

ILLUSTRATIONS.

NOS. 6, 7, 8 AND 9 BURY STREET AND 17 RYDER STREET.

THIS building was erected under the superintendence and to the designs of Mr. G. Thrale Jell, A.R.I.B.A., for shops with bachelors' chambers over, a feature of the planning of the bachelors' chambers being self-contained suites of hall, sitting-room, bedroom and bathroom, &c.

The materials of the front are Portland stone and red brick.

CHURCH OF ST. MARY MAGDALENE, THE HOLMWOOD, SURREY.

THE additional length now being added to the sanctuary of this church gives an opportunity of inserting the three-seat sedilia and credence shown in the drawing. The original east end contained three very plain lancet windows. The new window and sedilia are being made of Doulting stone, richly moulded, whilst the walls are of local Coldharbour stone to correspond with the remainder of the church. The reredos is being carved and painted by Mr. H. Cushman, of Pitsea, Essex, and all has been designed by Mr. Henry S. Sidebotham, architect. The builder is Mr. W. J. Pierce, of The Holmwood.

ST. GEORGE'S CHURCH, LLANDRILLO-YN-RHOS, COLWYN BAY.

THIS church is designed to seat 550 worshippers. It is built of local limestone, with Bath-stone dressings and linings. Messrs. Clegg & Son, of Chester, obtained the contract for the nave and aisles at £4,126, and were given a further contract of £2,498 for the chancel and morning chapel. The alabaster font and carved oak altar are being executed by Messrs. B. Boulton & Sons (Cheltenham). The glass and casements are by Messrs. Pearce, of Birmingham.

The aisle roofs are flat, covered with Breala asphalt, the nave and chancel roofs being covered with Broseley water-rib tiles. The floors of chancel are to be covered with marble pavings, and the hammered-iron work is by Messrs. Marshall, of Cheltenham.

The design for the church was selected in a limited competition, and is by Mr. L. W. Barnard, F.R.I.B.A.

LION GATES, HAMPTON COURT PALACE.

THESE gates are characteristic of the work of Jean Tijou. The overthrow on the bold and massive cornice contains the royal crown and monogram of William III. and his consort. They have recently been very much restored. Our illustration is from a prize drawing by "Plato," Mr. Chas. S. Carter, the winner of "The Architect" Travelling Studentship for this year.

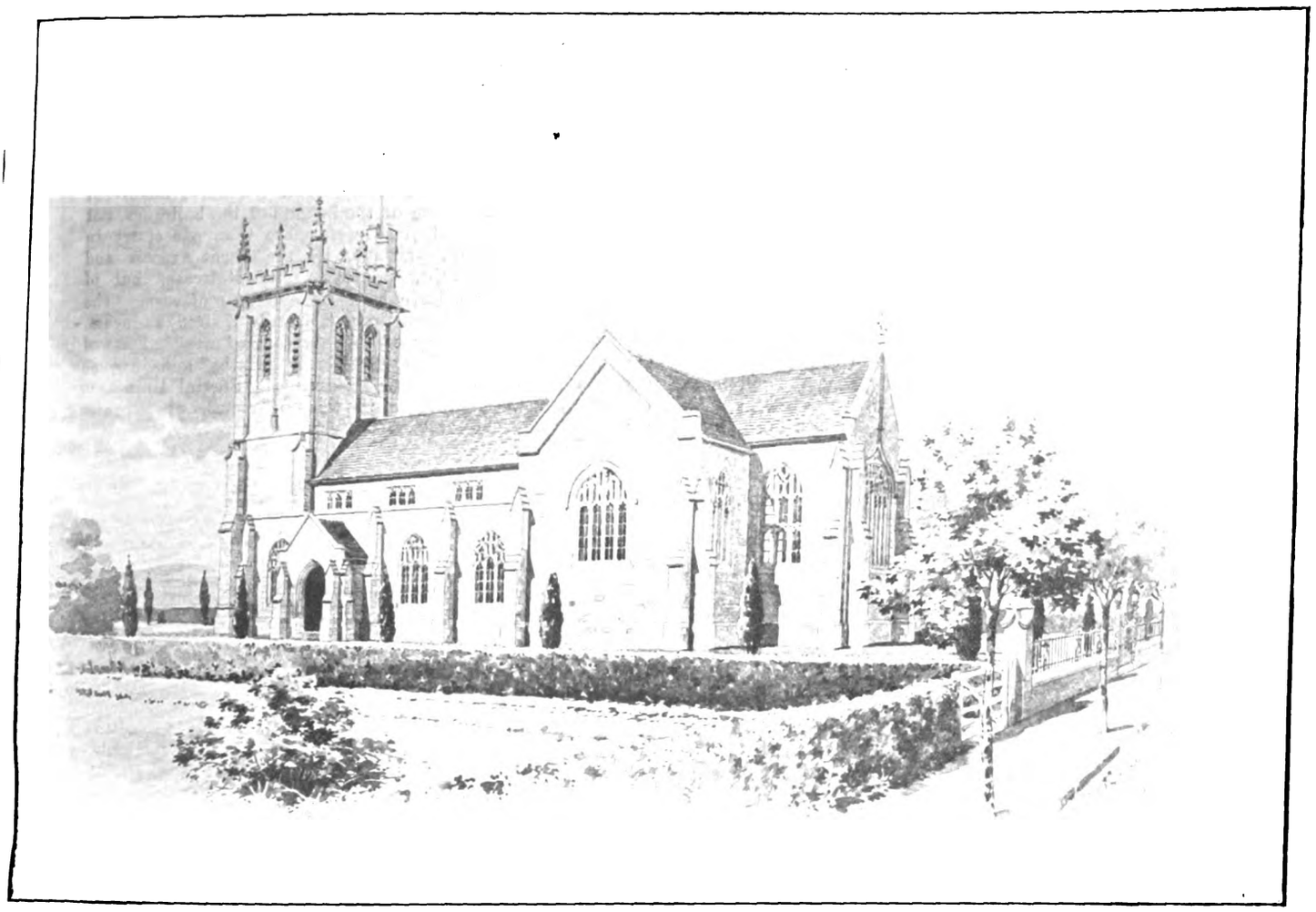
WROUGHT-IRON GATES, JESMOND MANOR HOUSE, NEWCASTLE-ON-TYNE.

A DESCRIPTION of these gates appears on the drawing, which is by "Toga," and was awarded a prize in "The Architect" Students' Sketching and Measuring Club monthly competitions.

OXFORD COLLEGE SERIES, NO. 143.—CORPUS CHRISTI. FRONT QUAD.

THIS week our illustration from Corpus Christi College is a further view of the Front Quad from a different point of view to that in the photograph published last week.

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ST. GEORGE'S CHURCH, LLANDRILLO-YN-RHOS, COLWYN BAY.—Mr. L. W. BARNARD, F.R.I.B.A., Architect.

ROYAL ARCHÆOLOGICAL INSTITUTE.

THE above Society opened its nine-day summer meeting on Tuesday last, the 14th inst., at Derby. Sir Henry Howarth is the President of the Institute, and the Duke of Rutland is President of the meeting. Mr. P. H. Currey, F.R.I.B.A., is acting as hon. local secretary. The secretaries for the meeting are Mr. Harold Brakspear, F.S.A., Mr. E. L. Guilford, M.A., and Mr. G. D. Harding-Tyler, M.A., F.S.A.

The first visit on the programme was a train journey to Lichfield and a short drive to

The Roman Station of Wall.

Here Mr. Charles Lynam, F.S.A., read a short paper, in which he said that Camden claims to have first discovered that Wall was the Etocetum or Letocetum of the Antonine Itinerary. In recent years various attempts have been made to prove the former existence of this Romano-British station or city.

In 1912 the North Staffordshire Field Club, by permission of the owner of the site, Mr. R. J. K. Mott, of Wall House, proved by a slight excavation that there would be a great reward if a real exploration was entered upon, and Mr. Mott and the club afterwards agreed to proceed accordingly. The site is within two miles to the south-west of the city of Lichfield, and lies upon Watling Street between Wroxeter and Derby, and is close upon the junction of Watling Street and Rycknield Street, the highest point here of the first-named street being 387 feet above sea level. Very extensive prospects are within view from the site, and it affords the storage of an abundant water supply.

Applications for the necessary funds were extensively advertised, which brought response sufficient to justify a practical start. The first point for settlement was where the digging should be commenced, and as there was in existence a definite indication of a fragment of the ancient walling, it was determined to break ground at that spot. Soon a considerable length of wall was unearthed, and in the course of time many others were thrown open, till at length the foundations of a complete villa or house were disclosed.

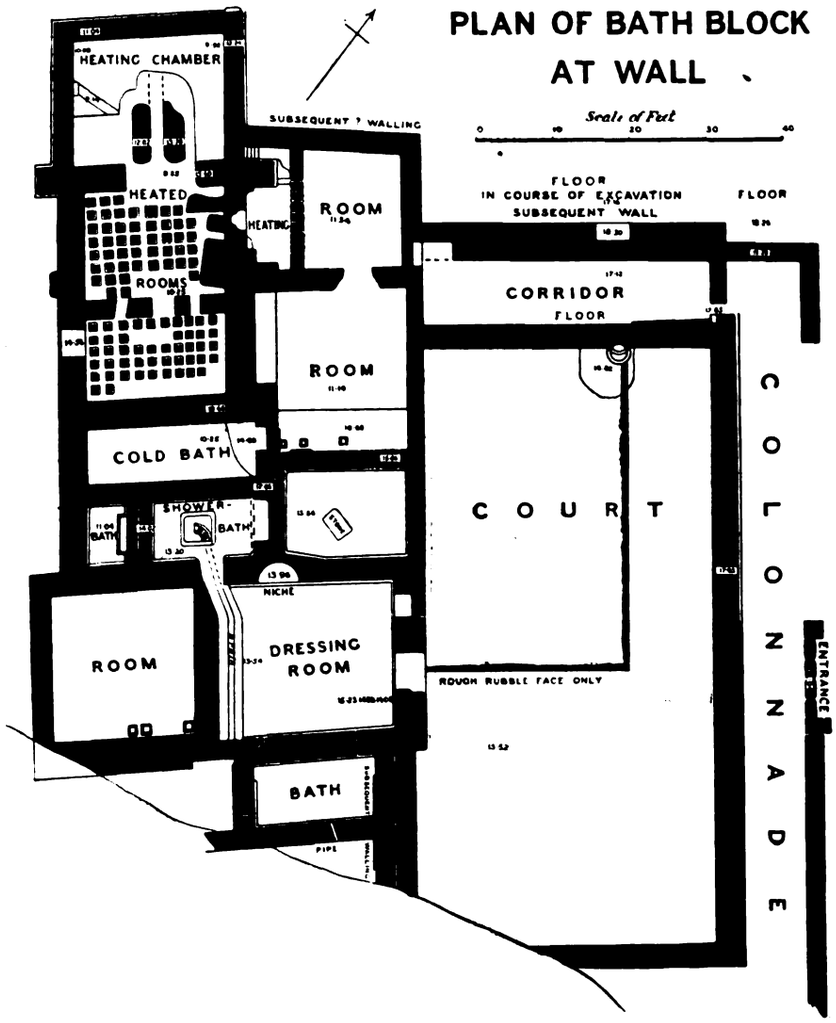
Everything that was turned up was watched and recorded by Mr. Mott, and as a result articles of every sort are now housed either at Wall House or in the museum which has been erected by Mr. Mott fronting to Watling Street for the purpose. Items of more or less interest rewarded the trouble taken to discover and secure them. Perhaps the principal feature is a rough stone low down in a foundation wall, carved with two human heads facing one another, and accompanied by a symbol, circular in form with an upright line through the centre of it. Coins, bones, and fragments of plaster floors have been common; also the plastering of walls with colour decoration.

Broadly speaking, the dimensions of the building first excavated may be given as 96 feet by 72 feet, and it may be said to stand north and south through the extreme diagonal points. It would be hazardous to attempt to define the particular uses of the various rooms, but an outline may perhaps be ventured upon subject to future revision. To the south-east front was an open colonnade; in its centre was the entrance to the building forming the main front, containing four rooms, that in the middle being the hall, or atrium, leading to a quadrangle about 39 feet square, having a covered corridor on all sides about 6 feet 6 inches wide, the centre square being open. On the entrance side, projecting into the open court, was an apse or semi-circular building of thin rubble walling, probably used for some special purpose, as for a shrine, as has been suggested, or it may be a fountain. On the north-east side of the square there were probably, originally, three rooms, but a subsequent alteration brought a thick wall to interfere with the corridor and one of the former rooms. On the remaining side of the square were the chamber for heating the buildings, in the manner known as channelled hypocaust, and possibly the bathrooms of the house. The walls vary in thickness from 1 foot 6 inches to 3 feet. Some are put together as mere rubble work, and others

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are roughly coursed, but none are smoothly tooled or jointed. It must, however, be borne in mind that the greater part of what is to be now seen is mostly of the character of foundation walling. Roman mortar is generally understood to have in it a proportion of broken brick, but that has not been seen to be the case here with very slight exception. There are sundry doorways indicated in certain walls, the angles of which are slightly rounded off, but no elaboration occurs, and the entire absence of windows of any form is a loss to investigation. This block is to be regarded as a villa.

The second block of buildings (which was that inspected by the Royal Archæological Institute) lies to the south-west of the villa, on ground of a lower level, and is some 40 feet distant from the first block. This building is of a larger size than the first, being 128 feet in length by 99 feet in width as far as at present disclosed. The characteristics of it are decidedly expressive of and point directly to the purposes of a bathing establishment for public use. Unfortunately, the plan cannot be fully traced, because a fence dividing ownerships exists at the southern end of hypocausts, the water departments being marked by existing stone drains and pipes of lead. This block is without an apse, but in one of the walls there is a semi-circular recess or niche. The indications of hypocausts, or heating floors, extend to most of the rooms. It will be noticed also on the plan that in this block the cross walls of the western set are not at right angles to the main walls, but are slightly on the skew, not uncommon in these Roman buildings, but involving measurements of triangulation throughout. There is nothing about the works discovered which denotes anything of the heights of the buildings, not even whether any of them were more than one storey in height. Excepting, perhaps, in the furnace rooms and one bathroom, nothing points to any staircase, but of course they might have been (if existing) of wood. The walls vary in thickness from 2 feet to 3 feet 8 inches. The masonry is mostly of roughly coursed work. Some of the external walls have projecting plinths, and in some rooms there are projecting skirtings. Special linings to the walls were provided in the bathrooms, where water was in use. The levels of the various floors vary.



the buildings, but generally it may be said that the block consists of first an open colonnade to the north-east, then a vast enclosure with various floors and only two thin rubble walls and a large drain, followed to the west by a series of rooms of double depth. The exact appropriation of the various parts cannot, perhaps, be specifically stated, but it would seem that the colonnade flanked the apartments appropriated for the usual accompaniments of the practice of bathing, consisting mostly of recreation-rooms. Then come the various apartments appropriated to the baths in two sets of the description we know as Turkish baths, with their gradual application of warm and hot air, and finishing of hot and cold water. In each of the north-west angles of the two sets of building is the furnace from which the various chambers were supplied with heated air, and which distribute it to the rooms above by flues specially formed in the walls and the heating of the floors, as is evidenced by the existing remains of the

Sir W. H. St. John Hope, in making a few supplementary remarks to Mr. Lynam's paper, said that many people, knowing nothing about the subject, usually wondered when they saw a Roman bath as to where the water supply came from. As a matter of fact, water was used in a very restricted manner. A Roman bath such as they now saw before them was in the nature of a modern Turkish bath. The one at Wall was of particular interest, because what there was of it was singularly complete. Users first went into a hall, where they paid a fee before going into an inner room to hang up their garments in wall niches. Commencing in the tepidarium, where the atmosphere was like that of a greenhouse, they passed to the caloria, and then to the hottest room, where the perspiration poured down. Over the stoke-hole were cisterns for supplying water for cooling down after passing through the latter. Then the visitor went back to the cold bath, then to the cold plunge, and finally to the tepidarium.

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The heat was conducted through flues in the walls, whose surfaces warmed the rooms. The hot air from the fires, being obtained from burning wood, could not be admitted without suffocation.

After lunching at Lichfield a move was made to

Lichfield Cathedral.

Mr. John Bilson, F.S.A., in giving an account of the cathedral, said he must plead guilty to a somewhat superficial knowledge of the building. Sir Henry Dryden once contended that no one ought to describe a church until he had measured and drawn its plan. This was excellent advice, but it was also a counsel of perfection difficult to realise and would considerably reduce the number of descriptions given—including the one he was about to offer.

The task of saying something about the building as now to be seen was hardly as simple as might be imagined, for Lichfield, like the majority of English cathedrals, still awaited the monograph it deserved. The study was most difficult because of the extensive renovation which the cathedral has undergone. A primary cause of this is the friable stone with which it is constructed. The cathedral suffered severely in the Civil War, when the central spire was battered down and injuries done to the western spires, roofs, vaults, and all its furniture. Then came the reparations by Bishop Hacket (1661-9), which included the rebuilding of the central spire and much renewal of window tracery, &c. From 1778 onward it passed through the hands of James Wyatt. Then followed an era of renewal in Roman cement, 1820-2. Finally the extensive "restorations" under Sir Gilbert Scott begun in 1856, the west front being dealt with in 1877-84. All this, of course, increases very much the difficulties of studying the building, added to which the documentary evidences bearing on the building are extremely meagre.

One of the most valuable contributions to its architectural history is Professor Willis's article on "Foundations of Early Buildings recently discovered in Lichfield Cathedral," which appeared in vol. 18 of the *Archæological Journal* (1861). His approximate dates have been followed by most subsequent writers. But one may now venture to modify slightly some of his statements.

The story of the existing building begins with the foundations below the floor of the choir, showing the first rebuilding after the Norman Conquest. These afford the key to the whole later story. Micklethwaite was never tired of pointing out how our parish churches have "grown"; this was also true to some extent of our cathedrals, as, for instance, of Lichfield and York. Each section was controlled by the section which immediately preceded it, and that in its turn was controlled by something now entirely under the ground.

Willis found the foundations of a choir 52 feet 3 inches wide—that is, 12 feet less than the present width. They indicated an aisled eastern arm of most probably three straight bays (as at Gloucester and Worcester), terminating eastward in an apse with ambulatory, and doubtless, as usual, three radiating chapels. This is conjectural, for nothing was actually discovered to prove bay divisions or transept plan.

The documentary evidences as to the date of this rebuilding, which doubtless included the whole church, are not very precise. Robert de Lymesey, 1088-1116, the second Bishop after the Conquest, is said to have employed 500 marks of silver, which he stripped from a beam of the rich church of Coventry, in great buildings at Lichfield. His successor was also a great builder. Tradition has, however, assigned the chief credit to the next Bishop, Roger de Clinton (1128-48), who is thought to have completed the work. From the meagre references we may infer that the church was built during the first half of the twelfth century and completed before the middle of the century. Later in this century a rectangular chapel was added eastward of the ambulatory, and this must have taken the place of the original central apsidal chapel. Nothing of what has been so far described remains above ground.

The story of the present church (excepting for the moment the further extension eastward and reconstruction of the eastern arm in the fourteenth century), a story which extends over the whole of the thirteenth century, must be understood as the gradual rebuilding of the twelfth century church in sections. This, by the way, completely explains the divergencies of axis of different parts of the church.

The first work was the rebuilding of the eastern arm, lengthening it eastward and somewhat wider than the twelfth-century choir. The Romanesque apse and its ambulatory now gave place to a longer square-ended choir. This new choir was five bays in length to the east gable, eastward of which was a square ambulatory, and eastward of this again a row of chapels, the east wall of which was immediately east of the end of the earlier eastern chapel. Glasgow Cathedral has precisely the same plan. This rectangular ambulatory plan appears first in England at Romsey in the first quarter of the twelfth century. It became a characteristic Cistercian plan when more altars were required than were provided by the earlier unaisled presbyteries. Of this eastward extension there now only remain the arcades of the three western bays, and three bays of the north and south aisles. The piers recall those of Wells, and both show the local and rather illogical characteristic use of a triplet of shafts to support a single order of the arch. The triplets on the face of the piers were clearly vaulting shafts carried up the face of the original wall. The capitals are very varied in motive.

The arcades are low, as at Wells. What the design of the upper part of the choir was it is difficult to say. The crossing piers and arches indicate that the vault must have been at the same height as the vault of the transept, springing at the height of the capitals of the crossing piers. It seems to be most probable that there was no triforium, but a clerestory and triforium in one stage, as in the transepts. No separate support is provided for the crossing vault; the vault ribs have therefore to start from a corbel. In the arch from choir aisle to transept the heights of the capitals are curiously varied in order to adjust the arches. The sacristy on the south side of the choir aisle is a building of two storeys which was part of the choir work or closely followed it. The upper storey is believed to have been (in later times, at any rate) the chapel of St. Chad's head, and it now has a gallery on its side next the choir aisle, an addition of late fifteenth-century date. West of the sacristy is the barrel-vaulted treasury with three aumbries in the west wall.

There seems to have been no definite break between the erecting of choir and transepts. The north transept is wider than the south, because the latter was fixed by the earlier treasury building. The intention to provide vaulting is unmistakable. Willis, mis-reading an entry in the Close Rolls of 1243, suggests they had a wooden vault. It was most probably of stone. The actual vaults are late fifteenth-century work. Above the arcades there is only a tall clerestory stage without any definite triforium. A similar single stage is found in some smaller twelfth-century churches. And the treatment of the windows set high up at the back of a wall passage is the same as in the choirs of Southwell and Pershore. The motive was doubtless the same in all three cases. The height available was restricted by that of the twelfth-century building to the west to be left standing, to which the new work had to be joined up. There are many differences in detail between the transepts, such as the window treatment, the arcading, and the doorways. In both north and south doorways, however (as also in the doorway of the chapter-house and the central doorway of the west front), there is a central pier subdividing the opening into two arches, in which composition all the arches, smaller and larger, are struck with curves of the same radius. This treatment—remplage normand—is common in the district and in Normandy, but less common in English doorways. Indeed, there is more than one analogy with the Gothic of Normandy here. Above the crossing arches the lower part of the central tower is thirteenth-century work, with fourteenth-century work above it. Willis gives the dates of the south and north transepts as c. 1220 and c. 1340 respectively. This seems open to some doubt. If anything, the north arm would seem to be a little earlier, though probably they were being carried out practically together. The details suggest piecemeal work executed in sections as the twelfth-century building was taken down. Nor can any considerable part of either arm be dated as early as 1220. The two transepts might rather be described as of the second quarter of the thirteenth century, the north being finished somewhere about 1250, and the south probably a little later.

The chapter-house was the next work following the completion of the transept. As frequently in churches in secular canons, it stood one side of the choir and was approached from the choir aisle, here on the north. It is

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octagonal on plan, elongated east to west. The vault of the lower storey springs from a central pillar and from corbels above the sill string. The room over, since the seventeenth century used as the library, is also vaulted from a central column. Willis's date of 1240 seems a little too early.

The nave consists of eight bays, including the tower bay, with aisles. The north aisle on the outside can be best studied, for it has not been refaced. The height of the nave was necessarily controlled by the earlier work to the east. But the earlier two-storey motive was entirely abandoned. There were various other changes. The bays are a little narrower than those of the choir, the capitals of the arcade piers are set higher, the piers are consequently taller, and the arches more sharply pointed. There is, above all, introduced a fully developed triforium stage. The springing of the vault was raised some 4 feet or so. But very little height was left for a clerestory; this suggested triangular windows. The triple vaulting shafts, rather slight, rising from the floor, give a great gain of effect of height. The tracery of the triforium is of pure early-geometrical type. The clerestory windows of unusual triangular form are filled with three circles, each containing a trefoil. The original vaulting remains only in one bay at the east and two bays at the west end. That of the other bays was taken down by Wyatt on account of their thrust on the walls, and were replaced by plaster. The sculpture of the nave fortunately suffered comparatively little injury, and is worth careful study. The nave itself is of fine proportion and gives an effect of height, although it only has actually the moderate height of less than 60 feet. Willis gives the rather early date of 1250. It could hardly have been begun before 1260, and, except the west part, was not completed before 1285 or 1290.

The west front and towers continue the chronological sequence. Their building ran on well into the fourteenth century. Nearly all is new now. The arcaded motive is reminiscent of Romanesque. The tall arcade with canopies at mid-height recalls Wells. The great west window is by Scott, and replaces one of curious design which dated from the Caroline restoration. The statue of Charles II. which stood above is now in a room in the north-west tower. Only five of the old statues are left; they are on the north-west tower.

The doors of the great west doorway are remarkable for some very beautiful ironwork (one must beware of the lower modern parts), which was probably the work of Thomas of Leighton, who wrought the grille of the Eleanor tomb at Westminster in 1294. Mr. Starkie Gardner says that Thomas was the first to introduce into England a new method already practised in France of using ornament in relief in ironwork, instead of merely incised ornament. The change consisted in striking the hot iron into prepared dies, as wax is pressed into a seal; the secret of using prepared steel, or chilled iron, dies must have been jealously guarded, for it took many years to reach England, and never reached Germany. The Lichfield ironwork has been placed earlier than the Eleanor grill.

The Lady chapel, there can be little doubt, was begun by Walter Langton, who was Bishop here in 1303. The window tracery is for the most part of the later Geometrical type, with only a suspicion of the very beginnings of the flowing manner, which might well have been designed by 1320 for one of the great men of his time. It was built beyond the east end of the then existing cathedral, and was joined up to it by a bay of main span and aisles, narrower than those westward. It is a noble building rising sheer to the height of the church, without aisles, with great buttresses dividing its three bays and three-sided apse. The conception is unusual for England, and has something French about its general effect; but of course that is all, for its detail is English enough. It is sumptuously finished, with a rich arcading inside below the windows and covered with a lierne vault.

The building of the Lady chapel was continued by the entire reconstruction of the eastern arm with the exception of the lower stage of the three western bays. The high altar was removed another bay eastward, and behind it rose St. Chad's shrine. In the complete rebuilding of the five eastern bays of the eastern arm the height of the earlier arcade was followed and the arcade of the three western bays was altered on the inner face. The single great stage above was completely filled by the great tracery windows. Of these only one on each side now has flowing tracery, the tracery of the others having been renewed as "Perpendicular." The stage of the central tower above roof ridges is mid-fourteenth century work, and marks the completion of the reconstruction of the eastern arm.

The works following this fourteenth-century completion of the eastern arm were not extensive.

In speaking in conclusion of the monuments, Mr. Bilson said that the figure of a Bishop in the south choir usually attributed to Langton could not commemorate that dignitary. Prior and Gardner in "Mediæval Figure Sculpture in England" suggest it may represent Bishop Patteshull (died 1241), and attribute it to a London workshop.

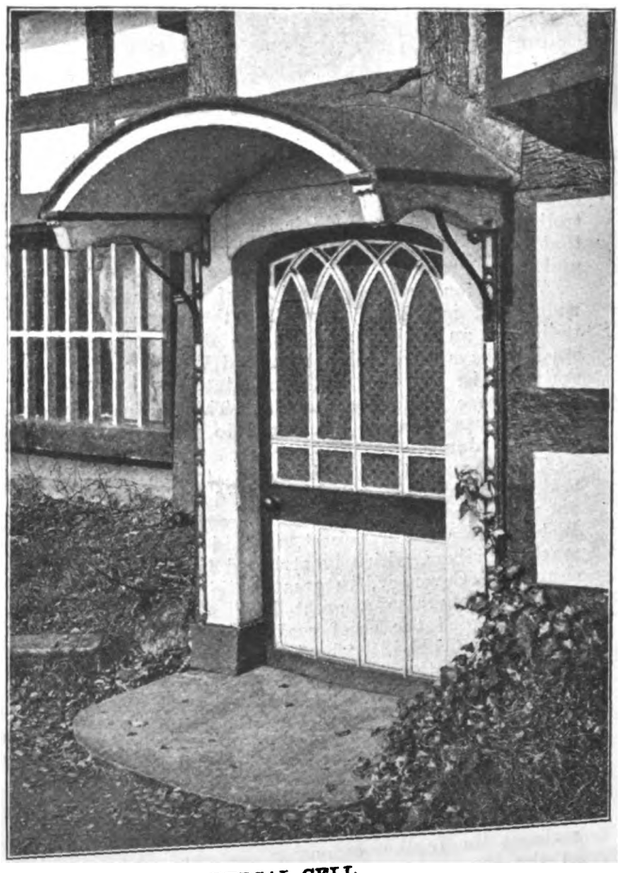
Sir W. H. St. John Hope said there were several points about the church to be considered. One thing was that these changes were traceable to the fact that the cathedral, being served by secular canons, was unhampered in its layout by cloister or other buildings. The structure stood quite free. Certain signs of openings above the roof-level of the choir had been hitherto overlooked by writers. There could be very little doubt that they belonged to windows. There is, however, no trace of their having been glazed. But sometimes window openings were closed by movable wooden frames, into which glass was fixed. Some years ago there were such windows at Rochester Cathedral and also at Westminster.

In the evening a meeting was held at the Midland Hotel, when M. Eugène Lefèvre-Pontalin, director of the French Archæological Society and Professor of Archæology at the Ecole des Chartes, gave an interesting lecture in French, illustrated by slides, on "Romanesque Sculpture in France."

(To be continued.)

OLD DOORWAYS.

THERE is something irresistibly fascinating about an old doorway. It prompts the imagination to conjure up the shades of those who were wont to pass and repass through its portals. It is the architectural keynote of the structure, and attracts or repels according to the measure of hospitality and welcome which it symbolises. Some doorways are repulsive, and Dickens knew well how to picture them; others seem to beckon you to enter, and reflect the happy welcome awaiting you within. In the olden time, when a man's house was in reality a castle, it was impossible to



KERSAL CELL

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reach the doorway unless the drawbridge spanned the moat, and the stout oaken doors were pierced with shot holes, grimly suggestive of the kind of welcome which awaited the intruder. With the passage of those troublous times more attention was paid to elegance of construction, and



HANDFORTH HALL.

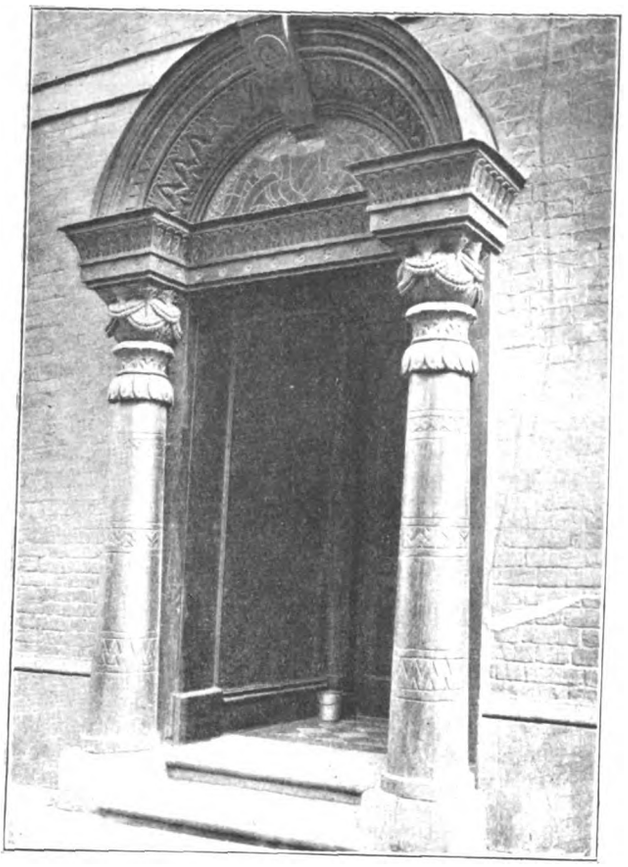
in the fifteenth and succeeding centuries doorways of beautiful design were erected, many of which claim our admiration to-day. It is regrettable that in the simpler buildings erected at the present time more attention is not paid to the doorway. Where rows of houses have, perforce, to be built from one plan, the monotony of line may so easily



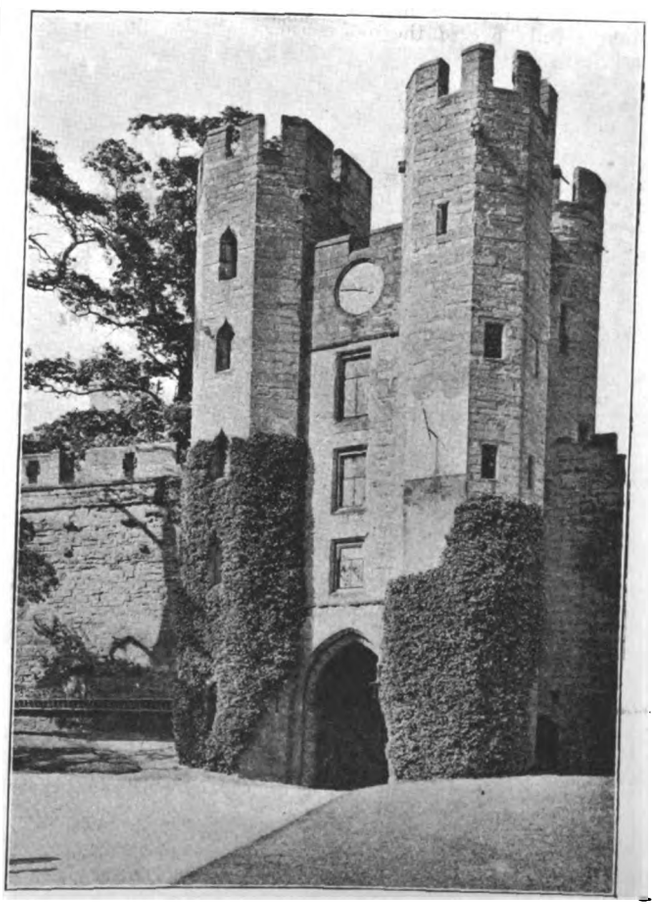
ADLINGTON HALL.

be broken by a little variety in the design of the doorways without necessitating any serious additional expense. The few examples reproduced herewith are typical of the variation adopted by our forefathers, and as many of these possess historic importance, it may be interesting to briefly describe them:—

Kersal Cell.—This simple doorway, beautiful in its simplicity, forms the entrance to a half-timbered building known as Kersal Cell, situated on the outskirts of the city of Manchester. It was once a religious house, but latterly



IN HIGH STREET, WARWICK.



GATEWAY, WARWICK CASTLE.

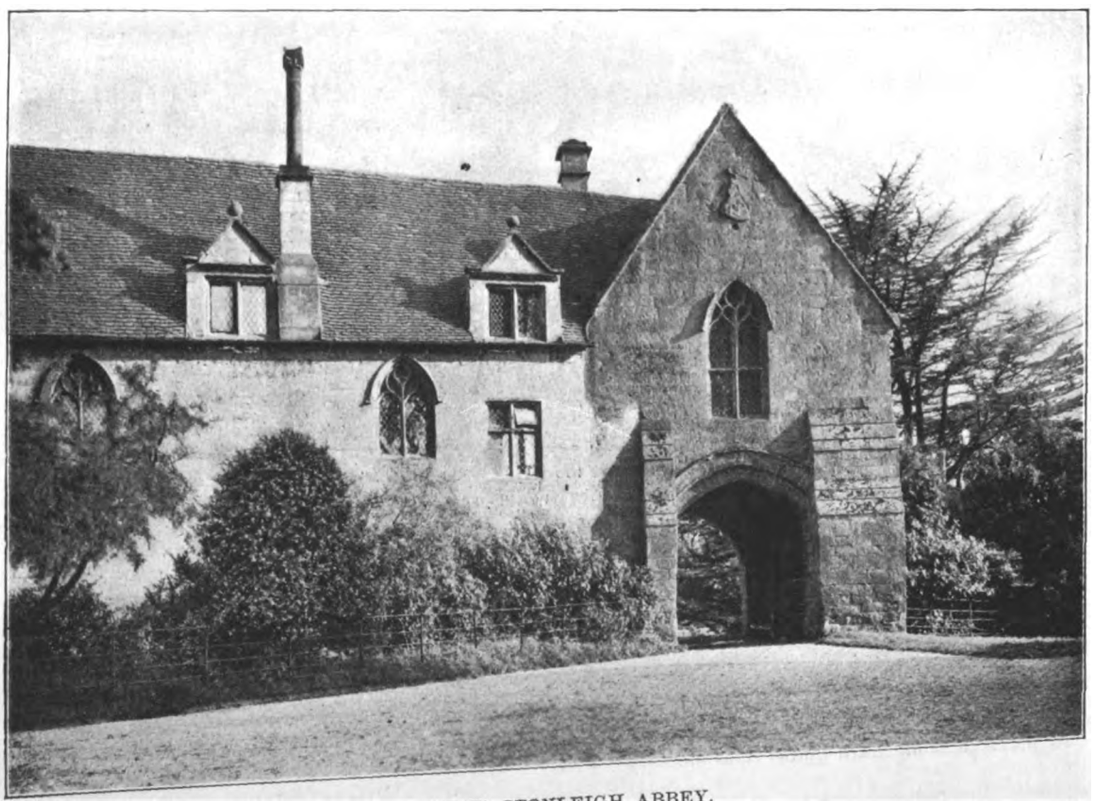
gained notoriety as the birthplace of Dr. John Byrom, who composed "Christians Awake" within its walls. The manuscript of that well-known hymn fell into the hands

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of John Wainwright, the organist of the Manchester parish church, who set it to the tune called "Stockport," and one Christmas Eve he took his choristers over to Kersal, and they sang the hymn for the first time as they stood around the old doorway, much to the delight of Byrom, who listened, entranced, within.



THE MANSION, ASHBOURNE.



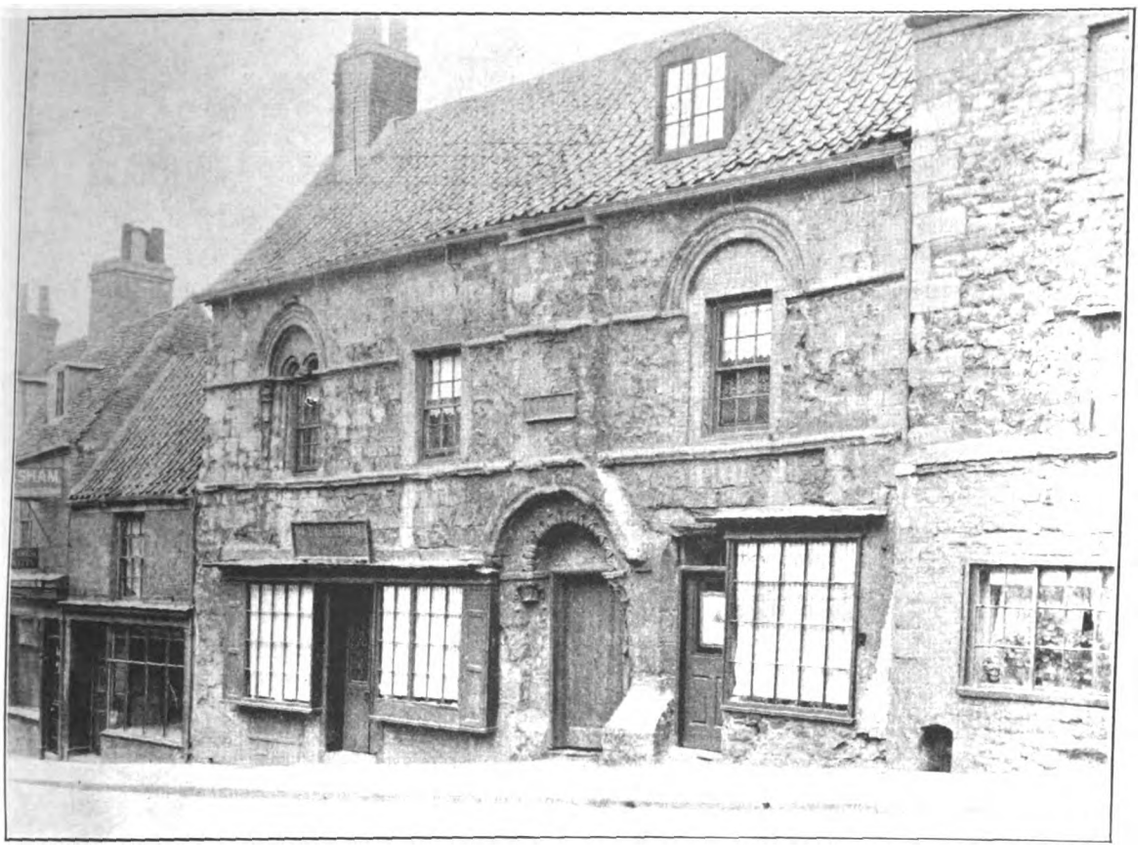
GATEWAY, STONLEIGH ABBEY.

The Mansion, Ashbourne.—This was Dr. Taylor's residence, and through the portals of its old doorway Dr. Johnson was oft seen to walk. He loved this calm retreat, and wrote many of his essays in the garden. The building that protrudes is an octagonal drawing-room, said to have been erected to entertain George III. Those who know their Boswell will remember the chandelier which hung in this room, and how the venerable Dr. Johnson flew into a passion because Boswell suggested it should be lighted in honour of the doctor's birthday.

Handforth Hall, once the residence of the ancient Cheshire family of Brereton, is now a farm-house. Its doorway, with carved oak posts, is characteristic of the days of good Queen Bess, and is regarded as one of the best examples extant. Bonnie Prince Charlie once passed through its portals and spent a night in the old hall.

Harrard House, at Stratford-on-Avon, now a show place, is interesting to the lover of ancient domestic archi-

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THE JEWS' HOUSE, LINCOLN.

tecture on account of the profusion of old oak carving which adorns its front.

Adlington Hall, the home of the Leghs, gains some notoriety from the fact that it was besieged during the Civil War, and that Handel wrote the "Harmonious Blacksmith" within its walls.

The other examples reproduced with this note are suggestive of what may be done in the embellishment of the doorways of our houses, and one can only hope that the time when beauty and utility are divorced may be far distant.

DOMESTIC ARCHITECTURE AND SANITATION.*

By WALTER CAVE, F.R.I.B.A.

IT is generally supposed that an architect's connection with the sanitary conditions of a house is summed up in the one word "drains." Whilst there is no doubt that he is primarily responsible for these important and necessary adjuncts to all dwellings, I venture to think that there are other matters which come within his province which have a great deal to do with the health and comfort of the inhabitants, and I shall endeavour to point out some of those details in the design of a house for which he is responsible, and which, if not carefully considered from the outset, are much more difficult to rectify in the future than the actual drainage.

Dirt of all kinds is undoubtedly one of the greatest enemies to health, and its evil effects can be largely avoided by taking due precautions in designing the details of a house and its fittings. For instance, the floors of sculleries, kitchens, larders, bathrooms, water closets, &c., which it is usual to make of some hard impervious material, such as tiles or cement, should be made to join the walls with a hollow angle, and not at a right angle which no broom can clean, so that in the constant washing they require, a rim of dirt is not allowed to remain all round the rooms.

It has been argued that cement floors are inclined to become dusty with wear, and are cold to stand on. As an alternative, I know of a distinguished architect who lays these cement floors in the offices of his houses, and after they are thoroughly dry, has linoleum or a cork carpet glued direct to the cement, with good results.

Hard wood floors, such as oak, teak and maple, are better than deal if they can be afforded, but where deal boards have to be employed, as is usually the case in bedrooms, they should not be washed with a scrubbing brush, as this tends to make the floors swell and then contract, so that the joints eventually become wide open, and if for economy's sake they are not tongued or otherwise jointed, the water and with it the dirt is deposited on the top of the plaster ceiling of the room below. Anyone who has seen the floor boards removed from a floor with "butt" joints will appreciate what I mean, and shudder at the accumulation of dirt, which is a menace to health. If deal floors have to be used, even of the cheapest sort, I think the best treatment is to stain and wax polish the floor boards so as to ensure a hard surface, which should be wiped over with a damp, not wet, cloth.

Another important point is the window, generally the only means of ventilation, both its position in the wall and its construction. From the point of view of health the top of the window should be near the ceiling, and that part nearest the ceiling made to open easily. If the window is a sash one, known in France as the guillotine, this is easily achieved, but with the casement it is not so simple. Should there be a transom, there are many methods of opening the upper lights involving gear, or cord, or a pole, but all these appliances are of a more or less complicated nature, and, as these lights are usually inaccessible, care should be taken to select the simplest form.

The cleaning of windows must not be overlooked, and the casements which have a hinge half way along the sill so that they open both outwards and inwards are very easily managed, and unless in a very exposed position are watertight.

Again, the position of the window in relation to the door, bed and fireplace is a matter that often seems to be left to chance or entirely subordinated to the exterior elevation. How often do we find, especially in hotels, a fair-sized bedroom, in which it is impossible to put a bed without its being in a direct draught, a very serious mistake which is often impossible to correct. Speaking of the position of bed and window reminds me of a certain client of mine who found fault with a bedroom I had planned for him, where the bed was against the wall at right angles to the window, an ideal position, I thought, which I had

* Presidential Address before the Royal Sanitary Institute Congress at Blackpool.

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OLD DOORWAYS.—HARVARD HOUSE, STRATFORD-ON-AVON.

taken some pains to arrive at. He complained that he did not like facing the light. I explained that I thought this was not the case, and that he would have had cause for complaint if the window had been opposite the foot of the bed. His reply was that he did not sleep on his back but on his right side. This was a view of the matter which was new to me, and I now consult my clients on this point beforehand.

Dirt and dust can be minimised nowadays to a large extent by the use, where possible, of electric light, which not only does not deposit a dirty layer on all available surfaces, but from its simplicity and effectiveness can light up many of the dark corners which we find in old houses before it became almost universally used. There is also the vacuum cleaner, which has now become a simple and economical method of getting rid of dust in the household, and, if installed at the very beginning of things, not an expensive luxury, and I firmly believe will soon be considered a necessity in every house.

Another distracting cause of dirt is the hot-water pipe which we cannot do without. The greatest care should be taken in casing it and covering it with non-conductive material, though this latter is often a horrible mass of dirt, and only hidden by a thin casing of wood, which is usually cracked at all its joints, which are in perpetual mourning with their black edges. How can this be overcome? Firstly, what is the cause? The pipes being hotter than the wall of the room, there is a constant current set up between the hot and the cold surfaces, and, where this takes place, the dirt floating in the air is deposited on the rough edges between.

Another instance of this, and one which is not always understood, is that one often sees a white line in the corner of a room, especially where the inner wall joins the outer. This again is due to two surfaces of different temperature. The outer wall, varying with the outside temperature, is generally several degrees hotter or colder than the inside walls, hence a current of air is set up between the two; and, as a current does not enter an angle with the precision of the paperhanger, it shirks the actual corner itself and deposits the dirt on either side, leaving, as I have said, a white angle innocent of dirt. This, to a large extent, can be avoided by again a precaution in the first place. A good hollow outer wall, with its air cushion, is an excellent non-conductor, and when the two walls are the same temperature no draught is set up. Draughts are not only dangerous and disagreeable in themselves, but they are always laden with dust, which is deposited, as I have shown, in all kinds of places: doors, keyholes, badly-fitting windows, &c. The greatest care should be taken with all joinery in a house; and here again the architect comes in, and money spent on good joinery is well spent.

The amount of dust that can be collected in book-shelves is extraordinary, and in towns bookcases should have glass doors; but this is to my mind objectionable, and I think a great deal of the pleasure to be got from books is done away with if doors have to be opened before a volume can be reached.

Amongst the many details in a house that require special attention, are the sanitary fittings. Baths, for instance, should not be cased in, and should stand clear of the wall so that they can be easily cleaned, and should be carefully selected so that they empty themselves quickly and thoroughly. The same also applies to lavatory basins and sinks. Cupboards frequently placed under both the latter fittings should be avoided as they are generally receptacles of all kinds of rubbish which collects dirt and dust.

Wardrobes and cupboards should all have a floor of their own raised a few inches above the floor of the room, not only to facilitate cleaning out, but to prevent the dust on the floor entering under the doors whenever the room is swept.

Dust traps should be avoided as far as possible, and can be, with care and thought in designing a house and its fittings, not to mention furniture.

These remarks apply more particularly to town houses, where dust is ever present; but, even in the country, this cannot be avoided altogether, and the same care in designing is required. The open fire, almost a religion amongst English people, is responsible for a great deal of this dust; but the more modern kinds of slow combustion grates, with a grating through which the ashes fall into an enclosed receptacle, can reduce this dust to a large extent, and are certainly a most economical form of the open fire. Gas fires and gas cooking stoves are gradually superseding the open coal fires, and are cheap and efficient, and overcome many of the above objections and help to minimise work, which is, needless to say, an important point in domestic economy to-day.

Cupboards, the delight of womankind, should be lit if possible. The opening of the door so as to let the light in is often neglected.

The old houses which delight the housewife with their deep cupboards, which were usually hideous dust-traps, were often due to thick walls and to bad planning, or rather to no planning at all. The rooms seem to have been

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arranged quite haphazard, with ill-lit passages at various levels. All this can be rectified with care in the first place. I heard of an architect who told his client's wife that he always began his plans with the cupboards, and then fitted his house round them.

The careful planning of a house with a view to economising service is becoming more and more important, and the inside lines of communication between the various parts want careful attention. Again, the position of the larder is very important from the point of view of health. How often do we find it placed between the servants' w.c. and the coalhole, and the dust-bin under the window outside. Care and experience in planning are most necessary to overcome difficulties, and these defects are usually due to ignorance, inability, and laziness on the part of the architect.

The constant use of whitewash in outbuildings is greatly conducive to a general healthy state of things. It is to be regretted that in many places people are getting above it, or only practise it where compelled to do so. Disinfecting whitewash can be made simply and cheaply by adding carbolic acid to the ordinary lime wash, but there is a point in connection with limewash that comes within the architect's province, and is one of those items I have mentioned which, if overlooked during the building of the house, cannot be easily rectified. Whitewash is usually put on an unplastered brick wall, but, if bricks are wrongly pointed, these walls are great receptacles of dirt. The usual builder's way of pointing brickwork is to hold the point of the trowel downwards, which produces an inverted weather joint which leaves a ledge ½ inch to ¼ inch wide on the top edge of every brick, on which the dust collects. The trowel should, of course, be held with the point upwards, so as to have no shelf or ledge. It is astonishing how difficult it is to ensure this unless it is specially made a point of.

Again, the storage cisterns for drinking and ordinary domestic water require special attention. They are frequently placed in the roof, which in itself may or may not be properly boarded and dust proof. Generally it is not, and the condition of these cisterns holding the drinking water for the house are disgusting. They should always be properly cased and covered in, easy of access, and lit in such a way that they can be readily cleaned. In towns where there is a supply from some company a tap should be always placed on the main for drinking purposes before the water enters any storage cistern.

The above remarks do not by any means exhaust the subject. I have purposely not touched on the main points of an insanitary house, namely, the drains and the sanitary arrangements, about which many books have been written, and concerning which most people have some acquaintance, and with which are connected a great body of highly-trained and skilled professional men, not to mention the sanitary boards with their ever-vigilant inspectors. These are what may be termed the obvious points of healthy houses. The improvement in this side of sanitation has been very great during the last few years, and it is beyond question that meetings such as these which give prominence to the importance of these matters are doing a great and valuable work, and the more the ordinary public understand these questions the better will be the result.

I have endeavoured to point out a few of the minor points in the building of houses which mainly concern the architect and have a decided influence on the health of the future inhabitants, and though these points may seem small and trivial I believe that it is in the attention to them as well as the more obvious ones that a more sanitary condition of things will obtain.

DUBLIN SUMMER SCHOOL OF CIVICS.

(Communicated.)

ARRANGEMENTS are now being made for the holding of a Summer School of Civics in connection with the forthcoming Civic Exhibition in the Linenhall Building, Dublin. The scheme of instruction is, of course, intended for adults, and will include lectures, demonstrations, excursions, and conferences during the three weeks commencing Monday, the 27th instant.

The aim of the School is to quicken the civic consciousness as a means towards the betterment of social life. The point of view of the promoters is that a city or other community is in reality a living organism. Its boards and other executive bodies are in this sense its organs, each charged with special functions, and its individuals the cells or working units in the complex organisation. Civics then is the science of the physiology of human communities, and its study is, therefore, necessarily based on a knowledge of the structural features of the city and of its available necessities of life—its shelter and protection, its means of transit, nutrition, water and air supply, its sewage disposal and all the industrial activities incidental to these and other activities that make up the complex life of a virile community of human beings. It also includes in its survey a study of the higher or intellectual aspects of life—all the ideals for which churches, schools, colleges, and universities strive. In a word, it stands for good citizenship. This is an everyman's science, and must surely appeal to the earnest citizen, and more especially to those whose public spirit and already awakened civic consciousness have drawn them into active municipal life.

The present School is the first attempt of its kind made in Ireland, and the conditions under which it is held are in many ways unique. First, it comes at a time when the housing problem of Dublin is engaging the serious attention of its citizens; second, it is under the directorship of the founder of civics and town planning as an organised subject of study—Professor Patrick Geddes—who has secured a staff of specialists to deal with the wide range of subjects included in the programme; and, thirdly, the School will be held in the Civic Exhibition, and can draw upon such a magnificent series of exhibits directly bearing upon the varying aspects of civics as has certainly never been before displayed at any Exhibition, either here or in any other part of the Kingdom. A detailed syllabus and time-table has been prepared.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY

A PARTY of nineteen members of this Society held their annual excursion on Thursday, July 9, travelling to London, thence by motor char-a-banc to the Hampstead Garden Suburb. The principal buildings, the church, chapel, &c., were inspected under the guidance of Mr. Raymond Unwin, F.R.I.B.A. Lunch was partaken at the club-house on the estate, and after thanking Mr. Unwin for his assistance the party motored to Hampton Court, where Mr. A. W. S. Cross, F.R.I.B.A., Vice-President of the Royal Institute, took charge of the party and conducted them through the State rooms, Great Hall, &c. After tea, on the riverside, the beautiful gardens and the great vine planted in 1764 were visited, the girth of the main stem of the latter being now 4 feet. The motor journey across London was most interesting. Dinner on the train and thanks to the President and Hon. Secretary for arranging such an enjoyable trip brought the excursion to a close.

LONDON COUNTY COUNCIL.

ILLUMINATED SIGNS ON BUILDINGS.

THE question of whether or not the architectural beauty of buildings occupying prominent positions in London may be destroyed by the erection of illuminated advertisements has been pointedly raised by the London County Council. In an action taken before Mr. Justice Astbury the Council contended that the lessee of property in Piccadilly Circus, which is the Council's freehold, had violated the terms of his covenant by allowing the front of the premises to be utilised for the display of illuminated trade signs. Mr. Justice Astbury, however, decided against the Council, and the Improvements Committee recommended that this decision should be appealed against.

In the course of a prolonged debate on the subject it was urged that, by attacking the lessee of one particular property, an unnecessarily vindictive spirit was being exhibited, and that the only fair way of proceeding was to obtain general legislative powers controlling the erection of all such signs.

The committee's recommendation to appeal against Mr. Justice Astbury's decision was ultimately defeated by fifty-seven votes to fifty, and unless, by the ingenuity of the Council's advisers, some fresh method of attack can be evolved, the signs will presumably remain undisturbed. The case was of particular importance as affecting several other properties belonging to the Council.

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LONDON BUILDING LOCK-OUT.

Allegations of partisanship and a desire to unfairly help the contractors to the detriment of the men involved in the building lock-out in London were thrown across the chamber in a discussion on the tenders for the erection of the new Sessions House at Newington

Mr. George Dew moved that the whole matter be referred back to the committee, with instructions to invite fresh tenders from firms who had not locked out their workmen. It was significant of the Council's attitude, said Mr. Dew, that only selected contractors had been invited to tender, every one of whom was involved in the lock-out. Moreover, it was common knowledge that, no matter to whom the contract was allotted, there was not a single firm on the list in a position to carry out the work. Sixty per cent. of the men engaged in the building trade in London were unaffected by the lock-out, and he contended that the firms employing them should be given an opportunity to tender for the Council's work.

The matter was still under discussion when the Council adjourned.

THEATRE FIRE RISKS.*

By Chief Officer J. W. DANE, Chief Officer of the Borough Fire Brigade, Croydon.

THE attention of the Home Secretary recently given to the question of fireproofing decorations used for stage purposes is the excuse I offer for opening up this question.

Most of us here are interested either as the officials whose duty it is to watch over the safety of the public for fire or as the authorities responsible for issuing of the various licenses dealing with public amusement buildings.

The modern built place of amusement, owing to the various building by-laws, is a well-constructed structure, and generally it is not till after the building is put to its intended use the fireman has much opportunity to assert his views, beyond fixing the position of hydrants and fire equipment.

The business of the buildings under our notice is to provide amusement for the public and a favourable money return to the proprietors. Hence it follows the business side is of primary importance.

Therefore I will first deal with the audience side of the matter as it appeals to me.

Starting at the beginning, the architect prepares his plans and they are presented to the local authorities, and if they are correct in details relating to the local building by-laws they are passed. Taking an imaginary case, the plans are shown to the effect that the theatre will have seating accommodation for 2,000 persons. The Plans Committee see that the staircases, passages, and corridors are of sufficient number and width and independent of each other to suit the number of persons accommodated in the various portions of the building. Now if that was the actual number never to be exceeded it would be fairly reasonable to assume that the public safety arrangements were satisfactory. Is it so? The house is opened, a big draw is put on, and on our visit of inspection we find perhaps 3,500 people in the building. At once the exits become insufficient and the house, in case of panic, becomes a "death trap." We are all aware how easily a panic can be caused and how hard it is to control or get in hand when once started.

In Bradford, in particular, this danger has been the subject of attention this year, the authorities making an endeavour to get the proprietors to sell their seats to the number of accommodation for sitting provided.

I might go a little further in this matter and say that it was never the intention of the proprietors to limit the accommodation to the number of persons shown by the architect in his deposited plans.

And, note this, there are managers who have instructions not to put their "boards" out "House Full" until a stated number of persons are standing in the various portions of the premises over and above the seating accommodation provided. If every theatre, music hall, and other place was in the hands of individual proprietors the visiting officer would find some one at each of the buildings to go to who could act decisively in the matter.

To-day is the day of big companies owning several theatres in various cities and towns; the control of each theatre is in the hands of a local manager, and he has to make every endeavour to get a satisfactory monetary return in to the proprietors, and he is thus fixed between two fires—he has either to please the one or offend the other, that is the proprietors or the licensing authorities.

Public safety can be secured to a reasonable extent by limiting the number of the audience to the seating accommodation, or by a declaration at the time of depositing the plans of the number of persons to be accommodated standing, so that ample exit arrangements for the maximum number can be insisted upon.

Further, directly the number of persons are in the house no more should be permitted to enter.

The difficulty of dealing with this matter in the provinces is that this state of overcrowding does not extend over long periods. The entertainment is subject to weekly change, one week there is a draw, the next week a slump, and it is the draw week that is looked upon to equalise the fall off of receipts in the slump week, and this creates some sympathetic feelings towards not pushing the penalties for overcrowding in some quarters.

Dealing with the stage portion of the building, the modern structure has a brick-built proscenium wall with a "fire-resisting curtain."

From various matters that have come to my notice there appears to me that a standard of construction is needed for this fitting. A little while since I was aware of a curtain being put in that the local fire brigade officer refused to pass and another had to be substituted. All should be fitted with an air brake or similar device to ensure the steady descent of the curtain directly the controlling lever is released and a sprinkler, yoked to the release lever, to provide a stream of water down the curtain at the same time to help it to stand up to its work when a fire is in progress.

Further, curtains should be lowered once during each performance, and unless the curtain is in satisfactory working order the house should be closed. Upon the efficiency of the fireproof curtain depends very largely the safety of the audience in case of an outbreak of fire on the stage.

At least two fire hydrants should be provided on the stage, one in close proximity to the O.P. side and as near to the curtain-releasing apparatus as possible. It should be of full working size and fitted with a nozzle suitable for the pressure on the main and not larger than three-quarter inch. The hose provided of a moderate length to enable it to be got to work quickly. Further, on the main feeding this particular hydrant a pressure gauge should be mounted to enable the water pressure to be checked at a glance.

Near should be an opening in the proscenium wall fitted with a fire-resisting door to afford a means of escape to the person operating this hydrant should the outbreak of fire get beyond control.

The second hydrant, with similar fittings, should be at the opposite side of the stage near an exit.

Two full-size hydrants and hose with branch fitted with a smaller nozzle should be placed in the flies, one on each side in close proximity to emergency fire escapes to enable men working same to have a satisfactory means of retreat should they be unable to check the fire in progress.

Further, a fireman from the public fire brigade should be on duty on the stage during the performance, preferably on the O.P. side by the proscenium wing with facilities to have a full view of the stage.

This has been the practice in Croydon for some years and has proved a very wise precaution.

I first got the idea from Berlin. When visiting the theatre I saw the fireman from the front of the house, or auditorium, when I was seated, keeping a keen observation on the stage.

With municipal firemen on duty one learns of the various small outbreaks quickly, faults in lighting arrangements, and other defects are subject of early reports. Likewise, effects used by artistes likely to cause fires are notified and receive prompt attention.

In instances where overcrowding in the auditorium becomes noticeable a request for a visit is 'phoned to the chief station and an officer at once visits to see if an improvement can be effected.

It is somewhat disconcerting to know to what extent risks are sometimes run to secure effective shows for the audience. I call to mind one company; in their show they had fire effects. To make big flashes of fire coloured fire was burned in pans on an elevated platform towards the rear of the stage; in the centre an air pipe was introduced and the fire puffed up by a bellows. It was observed by the fireman on duty that the fire sometimes reached up to the cloths, and he asked them to moderate the force. He was told practically

* A Paper read at the twelfth annual meeting and demonstration of the Association of Professional Fire Brigade Officers, at Barrow-in-Furness on July 2.

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to mind his own business. He wired the station and posted himself in the flies with fire buckets, and warned the stage operators that if they continued to use such flames of fire he should douse it with his fire buckets. This had a beneficial effect, and I was afterwards enabled to get the stage manager to give the needful instructions to secure safety.

In another case when a large fire was supposed to be in progress coloured fire in frying pans was being utilised. These got so hot that the stage hands could not hold them and they had to let go. Scenery was fired on two consecutive performances, and on the third performance the act was closely watched. The Chairman of the Licensing Committee, myself, and a representative of the London Salvage Corps were convinced that the effect could not be continued without grave risk, and induced the manager of the travelling company to substitute arrangements that were safer.

Yet this company had toured the country with serious risk at every performance.

Just another incident: an artiste about to go on the stage threw her wrap over an electric light flat batten, the fireman smelt scorching, investigated, and found the wrap had just taken fire. This was serious, as the flat batten was in use on a flat used in the scene. Of course, danger was at once averted.

In concluding this item, I might say we have had numerous small fires promptly dealt with by the fireman on the stage.

These incidents would not come to our knowledge with firemen on duty employed by the "theatre owners." The fireman may do his duty as effectively as far as fire is concerned, but the numerous incidents that arise that affect public safety he will not report to the fire brigade officials, as such reporting may lead to his losing his position and means of getting his livelihood.

In the smaller halls with stage plays and music and dancing licences which are used occasionally by amateur companies and others firemen should be on duty approved by the fire officers, and no scenery or footlights should be permitted unless a hydrant, hose, fire buckets, axes, and blankets are provided, and if the building has more than one floor in my opinion such structures should have a proper fire-resisting proscenium wall and fire curtain provided before being given a stage-play licence with full scenic effects.

These incidents show that all effects liable to take fire on a stage should be treated to make them fire-resisting. It should be insisted upon, and the owner of the properties should furnish a certificate as to the date the plant was last treated and to show on demand, at his own expense, that the treatment is still effective to the satisfaction of the licensee or the visiting officials.

Dressing rooms in theatres are—in up-to-date structures—generally separated from the main structure, but adjoining and communicating.

All doors between stage and dressing room corridors and staircases should be self-closing and fire-resisting. Further, a secondary means of escape should be provided in case the main staircase becomes impassible on account of smoke or heat.

This last item has received little attention in many quarters.

Further, in view of the large companies that are utilised to-day in scenic shows, the dressing room accommodation is usually quite insufficient to meet the needs of the people employed, and in instances the space under the stage and in the O.P. side of the flies has been turned into dressing rooms. Those who are constantly about theatres know that this constitutes a grave menace to public safety; candles are lighted to get heat for grease paints, smoking is indulged in by both male and female performers, and it requires constant attention on the part of the fireman to keep the danger and risk down. Therefore, in my opinion, there is a case made out for better and larger dressing room accommodation.

I do not think that any further words on my part will help this case beyond referring to the lives lost in the temporary dressing rooms at the Empire Palace Theatre, Edinburgh, May 9, 1911, to drive home the correctness of this recommendation.

The lighting of the modern place of entertainment is electrical, and the demands at times show that a considerable factor of safety is an absolute necessity to prevent overload. Every plug circuit and light circuits of various descriptions should be efficiently protected by fuses. Resistances—a weak point—should be at least 2 feet below any woodwork and not screwed into wood plugs in brick walls, but mounted on proper iron brackets dowelled into the wall.

It is difficult for the ordinary fireman to inspect a lighting installation; we know the weak points and what to look for as danger spots, but for a thorough systematic inspection the electrical expert must be called upon, and my conclusion in this detail is: "The licensee should furnish to the licensing authority once each year a certificate by an independent electrical engineer that he has thoroughly examined the whole of the electrical arrangements and state the condition of same; the licensing committee to insist that all defects be rectified before the license is issued or renewed, according to the application being dealt with."

Storage of old properties under the stage or in the flies should be absolutely prohibited.

Artists and other persons not engaged or preparing their turn should be off the stage; in other words, no person should be allowed upon the stage unless it be necessary for the business in hand.

Unengaged artistes and visitors would only impede the fireman in case of fire and cause him extra anxiety as to their safety. I believe the Federation of Variety Artistes have a regulation to this effect, but it is more honoured in the breach than observance.

Smoking, except in the business before the public, should be sternly repressed; in fact, I would go so far as to recommend that any person smoking within the stage risk (with the exception before mentioned) should be able to be proceeded against by summons and fined a stiff figure.

My efforts in this paper are to try and prevail upon this Association to ask the Home Secretary to draw up a set of model regulations for dealing with the fire risks in all places licensed for stage plays and music and dancing summarised as follows:—

1. Regulating the number of the audience at any one performance, according to seating or declared standing room, in accordance with size of exits, corridors, and staircases, to be standardised for the number of persons to pass through, say, 4 feet 6 inches door for 150 persons, three 4 feet 6 inches doors, or two 6 feet doors for 450 people on ground level; on higher levels the width of doors, passages, and staircases should be of greater width.

2. Standard of construction and fitting of fireproof curtain.

3. Curtain to be lowered once during each performance. In case of failure, house to be closed.

4. Fire apparatus to be to the satisfaction of the Fire Superintendent of the licensing authority. At least four hydrants to be within the stage risk properly equipped, and a water pressure gauge mounted in prominent place.

5. Firemen of the public service to be on duty on the stage with full view of same during the performance at the expense of the licensee.

6. Efficient secondary means of exit to be provided from flies and dressing rooms.

7. No part of the stage risk to be utilised as dressing rooms.

8. Independent engineer to certify as to the condition of electrical equipment once in every year to licensing magistrate, or authority, or at any other time on demand at the expense of the licensee.

9. Storage of old properties within the stage risk to be prohibited.

10. Smoking within the stage risk during the time the public are in the house to be prohibited.

11. Inspection by authorised officers at any time, and any part of the premises.

12. Illuminated exit notices should be fixed over all exits on an independent system of lighting to the ordinary lighting of the building.

13. All exit ways, corridors, passages, and staircases used as means of egress to be efficiently lighted by two independent systems of lighting during the whole time the public are on the premises.

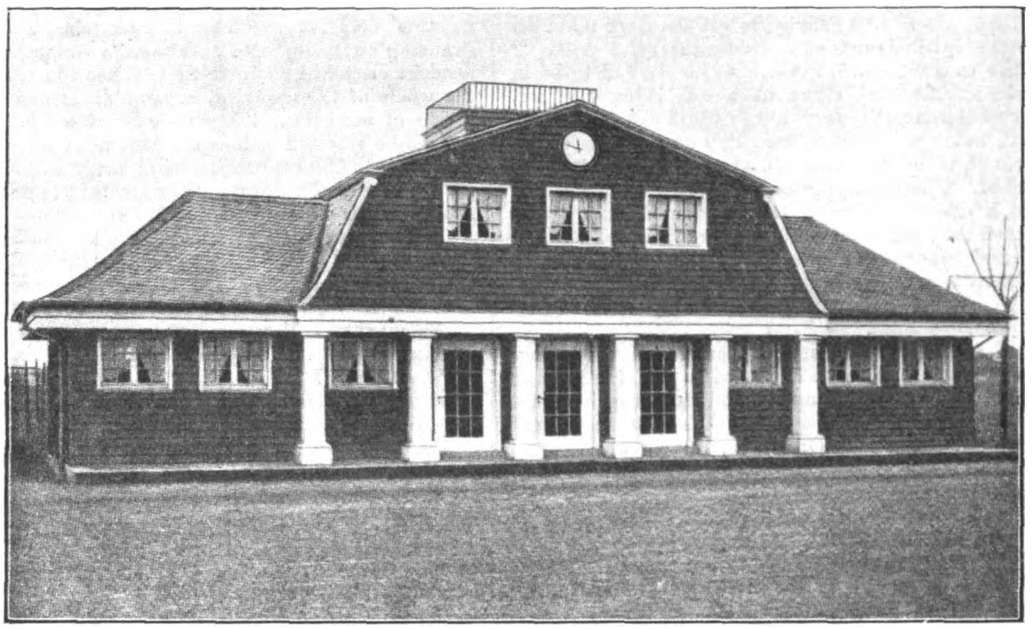
14. All properties that will ignite to be made fire-resisting and maintained in such condition. Owner to certify the date of last treatment on demand by the licensee or public safety officer to prove the treatment is still effective, at his own expense, to the satisfaction of the requesting parties.

15. All doors to open outwards and, if fastened, secured by automatically pressure-releasing bolts. Method of operating: "Push bar to open" painted on the doors.

The firemen that attend for theatre duty in Croydon are only present whilst the audience is in the house. 3*s*. per performance, single house, per night; 4*s*. for double house per night, and 1*s*. per hour when occasionally requisitioned.

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MODERN EUROPEAN ARCHITECTURE.
GERMANY.



[From *Moderne Bauformen.*

TENNIS CLUB-HOUSE AT RODENKIRCHEN, NEAR COLOGNE.—Herr PAUL POTT, Architect.

In the latter case the time is counted from when the man leaves his station until his return thereto.

In reference to the cinematograph exhibitions, I will be brief. The Secretary of State has issued his regulations which, supplemented by the local authority's regulations, ensure safety to a certain degree; the seating accommodation should be dealt with in the same way as previously recommended.

An independent source of lighting for secondary means should be installed and in use whilst the audience are present. If electric light is the usual light, then gas should be installed for emergency use.

There are two special points I want to raise—one is that entrances and exits to operating rooms should be always outside the auditorium, and if this cannot be secured no license should be granted to the premises.

Cinematograph film fires cause a lot of smoke, and should the operators open the door to get out of the box there is a rush of smoke and the audience know at once what is the matter. There have been two film fires in operating rooms in Croydon and the audience have been unaware of the fact.

The boxes in both cases had independent entrances clear of the auditorium.

The other is that in my opinion great danger exists in the rewinding room, for which compartment the Secretary of State has made no regulation or provision.

In Croydon iron boxes for films in winding rooms are insisted upon and all clippings boxed up and rooms kept free from rubbish.

NOTES ON BOOKS.

"The Hermits and Anchorites of England." By Rotha Mary Clay. (London: Methuen & Co., Ltd. 7s. 6d. net.)

IN the introduction to this excellent book it is pointed out that there were two distinct classes of solitaries or recluses—viz., the anchorite, who was enclosed within four walls, and the hermit, who went out of his cell and mingled with his fellow-men. It is well to emphasise early this distinction, because it is sometimes assumed that when a hermit maintained any active hold on worldly affairs he is to be considered *ipso facto* a backslider at the least. Whereas even an anchorite, the strictest of mediæval recluses, was expected to listen to any pilgrim who under certain restrictions came to the window of his cell. That the hermits played a very useful part in English life is here abundantly shown. The author writes: "He taught and preached, celebrated Divine office in his chapel for the benefit of wayfarers, or acted as guardian of some shrine; he gathered alms for the relief of the poor at home, or for the freeing of those in captivity amongst the heathen; he helped to cultivate the waste places of the land and to clear the forest; he made roads and bridges and kept them in repair; he erected sea-marks and lighthouses for the guidance of mariners." Many hermits were, in fact, the pioneers of those public bodies which now undertake such philanthropic works. Other recluses felt a call to unbroken solitude rather than to a life of service, and therefore retired to islands like Farne, Coquet, and Steep Holme, to inland islets like Lady Holm (near Bowness), or Thorney, or to forest, fen, and hillside retreats. Such as these chose no primrose path of dalliance, for besides enduring physical hardships they were ever open to attacks from lawless man and savage beast.

There is evidence of the existence of at least 750 cells in England, whilst the actual names of 650 hermits and anchorites occur in this book. These were drawn from all social ranks, of both sexes, and abandoned the world for many different causes. St. Edwold, a Saxon prince, journeyed from East Anglia to a cave in Dorset in order to escape a throne; Dale Hermitage was cut out of the rock by a baker of Derby who left his family to lead a more perfect life; Lauretta, Countess of Leicester, retired into solitude at St. Stephen's, Hackington, on the death of her martial husband, and she obtained an exemption from jury service for her serving-man; St. Wulsi was driven from the Benedictine monastery at Crowland to a cave at Evesham by the adulation of the crowds who came to visit him, unskilled though he was in the arts, and here he dwelt for seventy-five years.

All who embraced the solitary life were under vows of some kind, though of varying degrees of severity. It is scarcely surprising that impostors found the cloak of the hermit an easy and lucrative disguise. The ecclesiastical authorities were sometimes called upon to bring their severest punishments to bear on those who were disgracing their calling. All this and much else is dealt with in the above most painstaking and interesting book. We can readily credit the author's claim that documentary evidence was sought for every one of the statements. Indeed, the information is at times almost too detailed, being at the expense of a free handling of the subject. This specially refers to the opening seven chapters, which deal with individual solitaries in a slightly haphazard way. But there can be no mistaking the sympathy with which the author treats this difficult subject or that such sympathy springs out of a most intimate knowledge.

A word must be said in conclusion as to the fifty or more illustrations. These are quite adequate, and have

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PHOTOGRAPH BY A. E. WALSHAM, 60 DOUGHTY STREET, W.C.

OXFORD COLLEGE SERIES. No. 143.—CORPUS CHRISTI: FRONT QUAD.

Sprague & Co., Ltd., 69 & 70 Drury St., Strand, W.C.

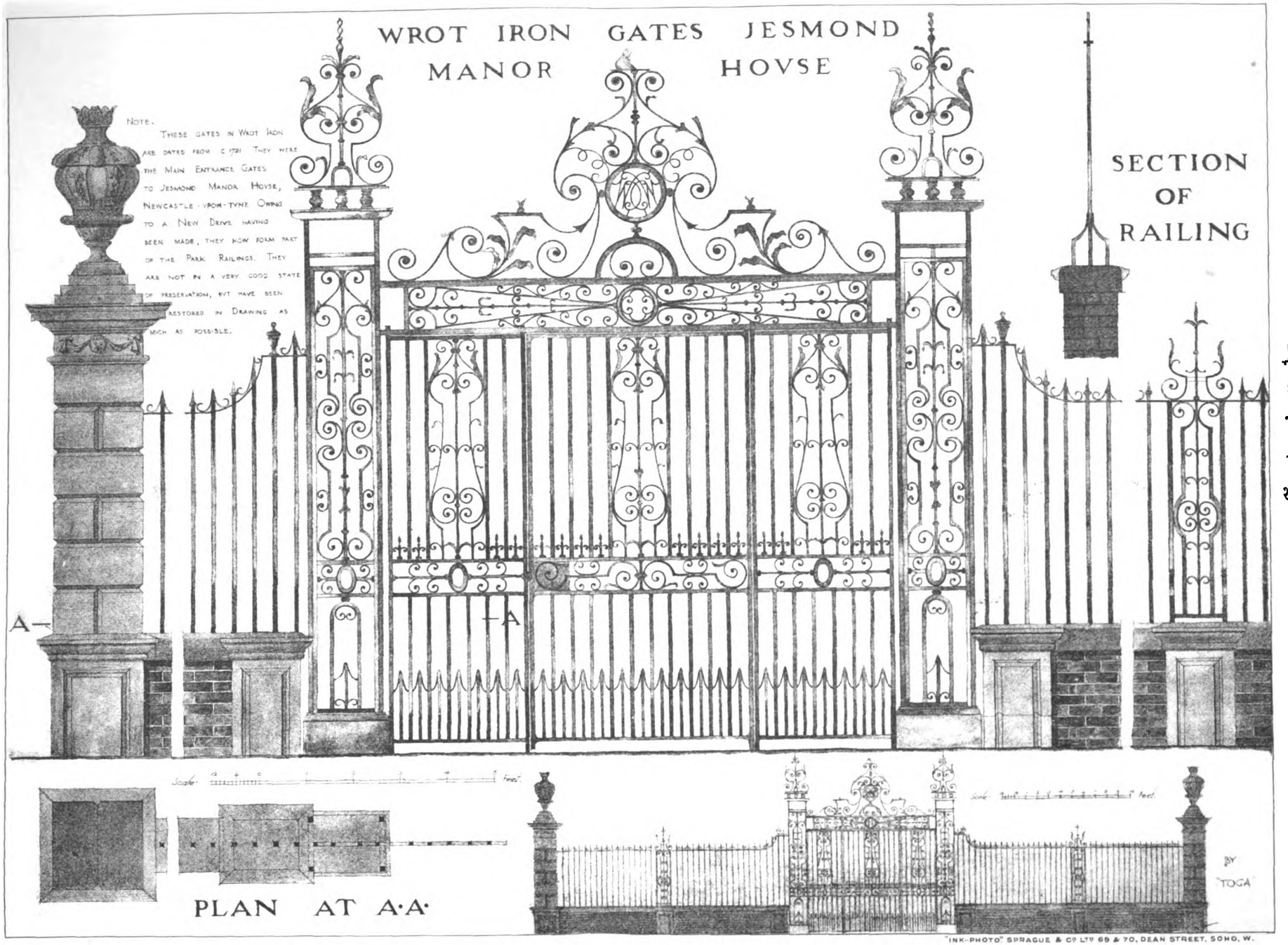
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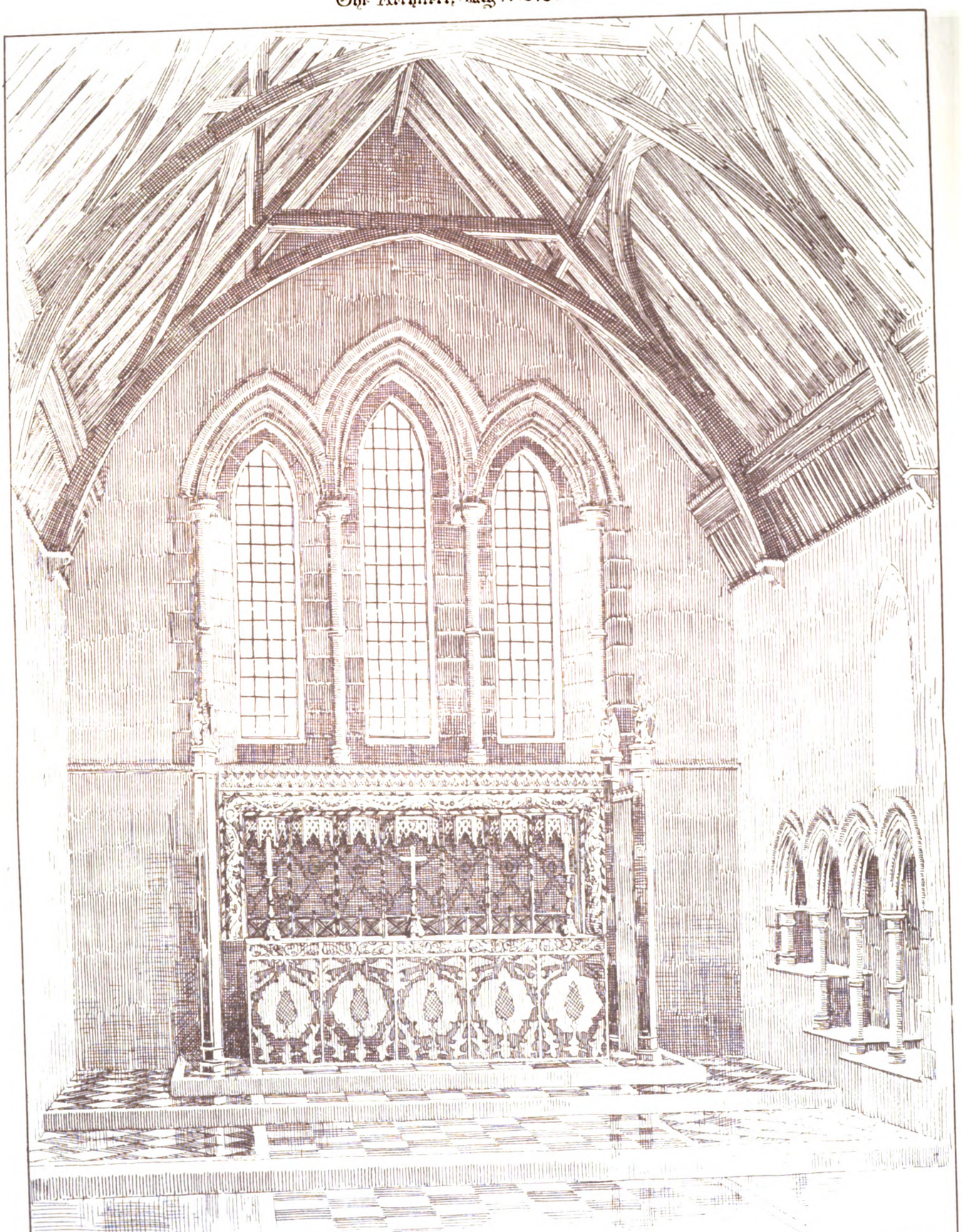
"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

From Prize Drawing by "TOGA."

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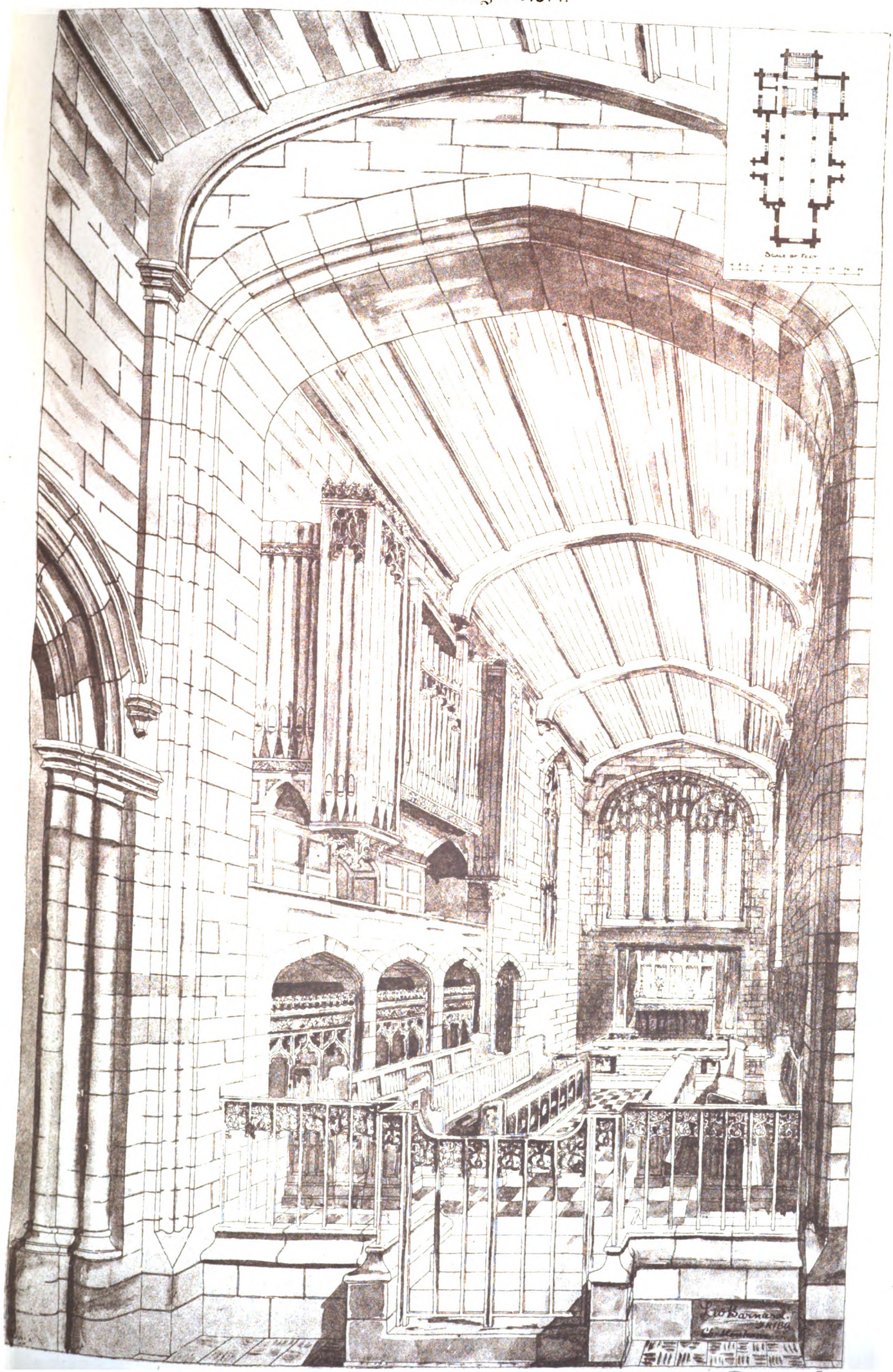


HENRY. S. SIDEBOTHAM. ARCHITECT.

ADDITIONS to St MARY MAGDALENE'S: THE HOLMWOOD, SURREY.

PHOTO-LITHO SPRAGUE & CO. 69 & 70, DEAN STREET, SOHO, W.

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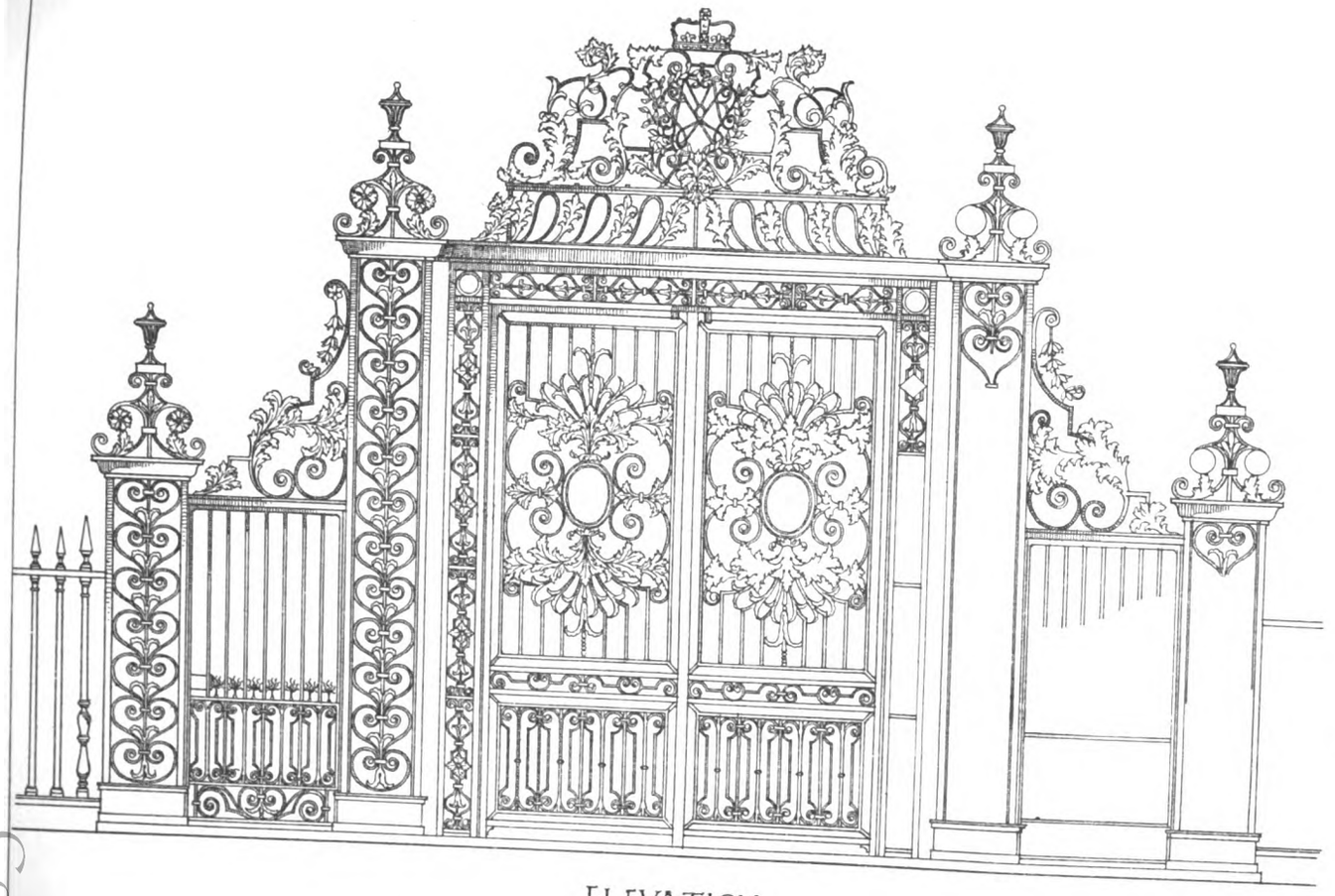
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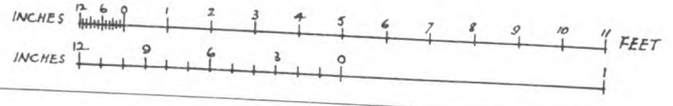
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HAMPTON COURT PALACE

DETAIL OF LION GATE



ELEVATION



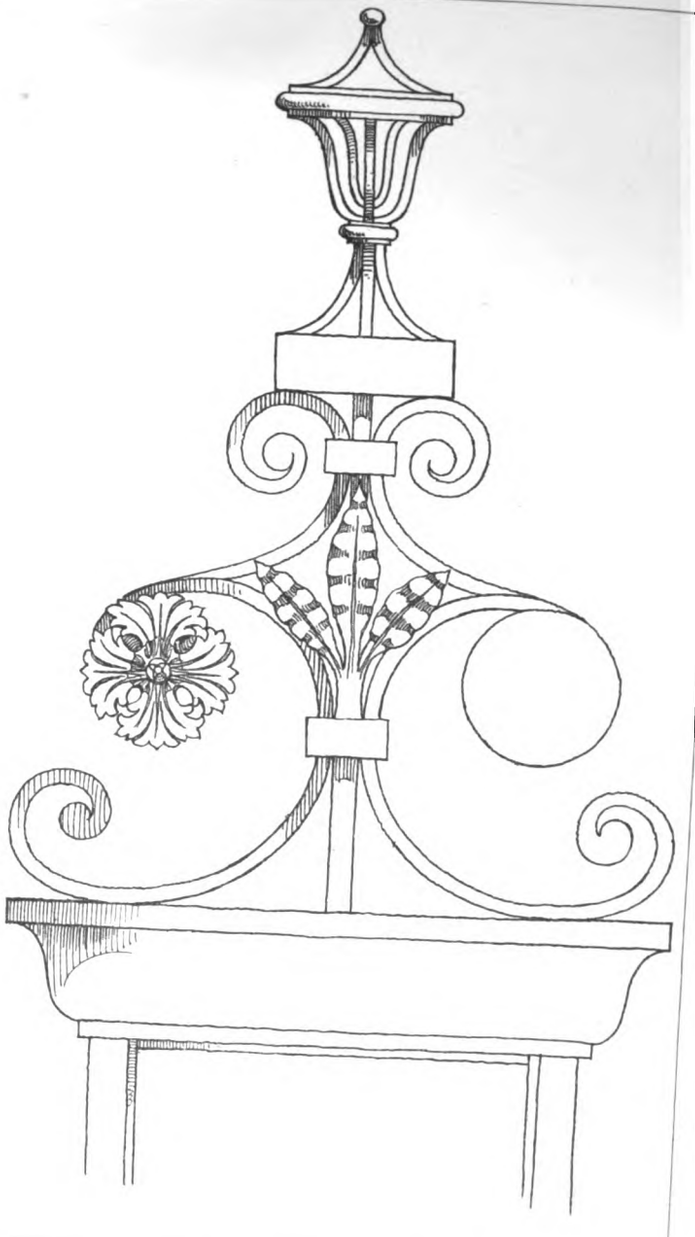


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"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

From Prize Drawing by "PLATO."

The Architect, July 17th 1914.

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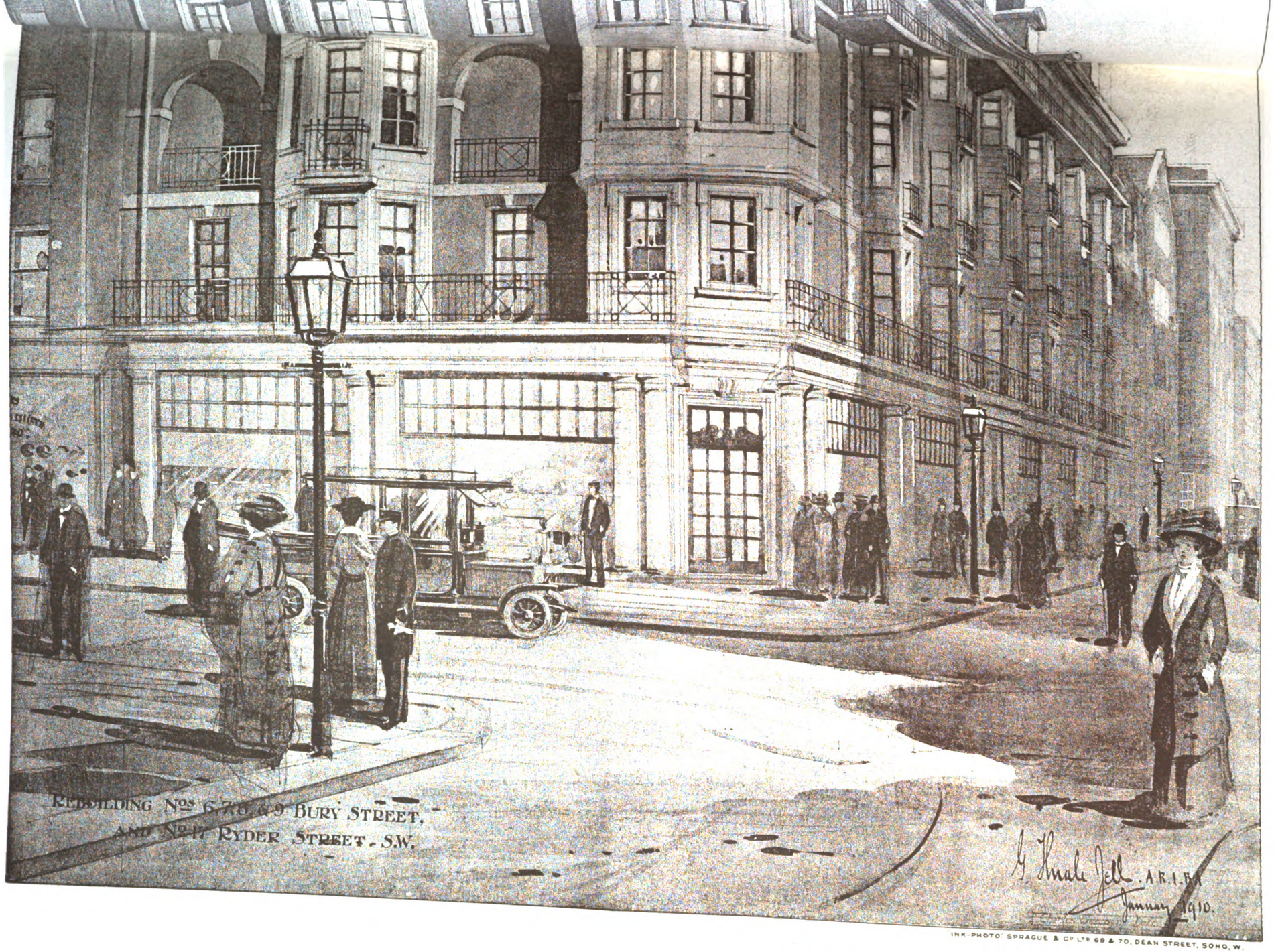
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BUILDING AT CORNER OF BURY STREET AND RYDER STREET, LONDON, S.W.

(Royal Academy Exhibition, 1914).

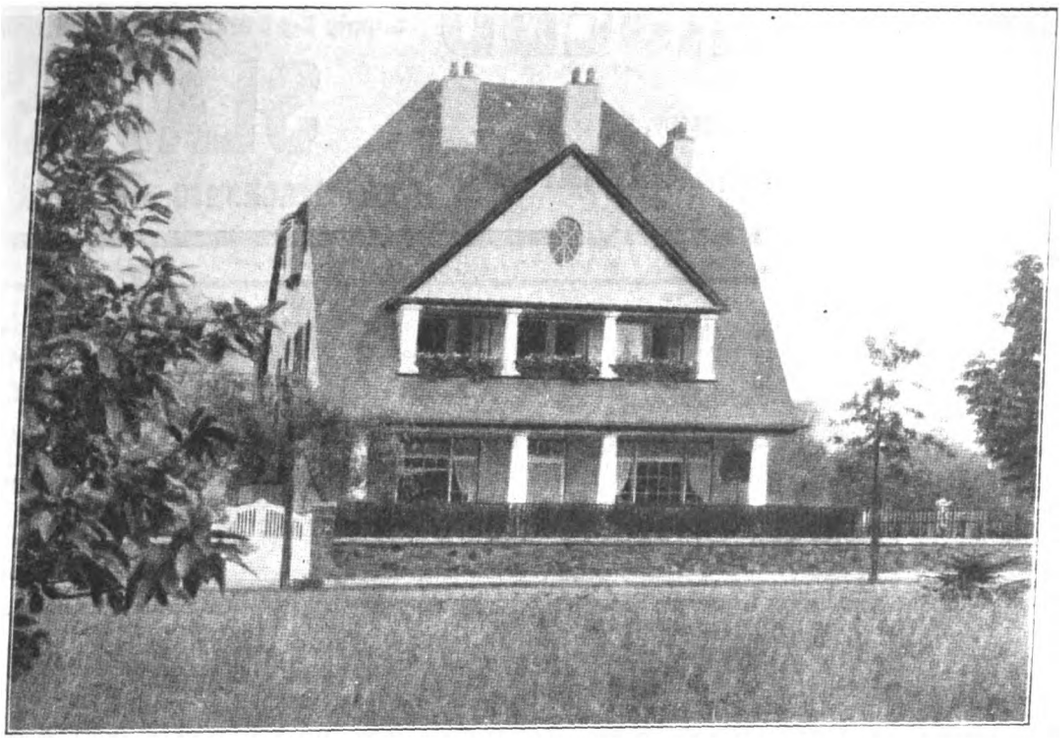
Mr. G. THRALE JELL, A.R.I.B.A., Architect.

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MODERN EUROPEAN ARCHITECTURE.
GERMANY.



[From *Moderne Bauformen.*

SMALL COUNTRY HOUSE NEAR COLOGNE.—Herr PAUL POTT, Architect.

been obtained from such sources as illuminated MSS., engravings, and wall paintings, as well as from photographs of the hermitages described. The latter impart a curious flavour of actuality to a subject which is more or less obscured by the flight of time. On many counts, therefore, this latest addition to Messrs. Methuen's series of "The Antiquary's Books" is worthy of its authoritative shelf-companions.

"*Incandescent* Electric Lamps and their Application." By Daniel H. Ogley. (London: Longmans, Green & Co. 2*s.* 6*d.* net.)

THE publishers draw "attention to the fact that this book is a plea for the co-operation of architects, builders, &c., in a general campaign for better lighting," and we would wish to commence our brief notice by commending the clear style in which it is written throughout its hundred pages, aided, too, by the useful graphical and other diagrams and illustrations which pervade the book. The author deals in a series of eleven chapters with the production and propagation of light, illumination and its measurement, standard light sources, photometry and photometers, light distribution from incandescent sources, incandescent electric lamps, characteristics of incandescent lamps, the eye and the principles of vision, lighting systems and illumination calculations. He advocates, as we think rightly, the superiority of indirect (over direct) lighting, and does well to point out that glare is the wrong form of light, for the great object of artificial illumination should be to reproduce as nearly as possible the effect of daylight.

The book possesses the all too rare merit of exhibiting scarcely any typal and similar weaknesses, but the index needs revision in order to bring it into perfect sequence of entries.

"Building Construction Drawing," Part I. By R. B. Eaton. (London: E. & F. N. Spon, Ltd. 1*s.* 6*d.* net.)

IN a series of twenty-six plates and ten brief specifications, Mr. Eaton sets out "to provide the building construction student and those connected with the building trade with a graduated set of drawings, which will help them to acquire a knowledge of drawing and also of the simpler forms of building construction." The object is laudable, but we are not impressed by what we see in the book, nor if there is "a long-felt need" for such a series of drawings do we think that it is met by the present publication. We are not concerned to enter into particulars as to the points in the specification upon which we may differ, be they even only few, for the specifications are at least merely intended by Mr. Eaton as a peg upon which to hang the drawings. The latter are far from inspiring, however. The scales should by preference be throughout drawn on the sheets, instead of being merely referred to. We are rendered uncomfortable in looking at a section of a hollow-wall showing but 4½ in. on each side of the space; this, of course, is inadmissible in London, and is inadvisable in Poole or elsewhere. And 4-in. surface concrete, too, is also too slight a depth. Generally speaking, the drawings are very inaccurately set out; a ridge specified as 8 in. is drawn 11 in., and 11 in. wall string is drawn 12¾ in.; these are but two out of many inaccuracies. Again, on drawings of this class the throughlines of door styles and rails should be shown, the carriages should be drawn beneath the stairs, and so on—*and* so on. We will hope that the second series promised by Mr. Eaton will prove more satisfactory.

"Building By-laws in Rural Districts." By Sir William Chance, Bart., M.A. (London: P. S. King & Son. 1*s.* and 1*s.* 6*d.*)

AMIDST so much else that is seething in the melting-pot to-day, the subject of the reform of Building By-laws takes an increasingly forceful position. The hitherto-regarded-insoluble nature of local regulations is now seen to be most urgently calling for some solvent so as to satisfy the housing requirements of these Isles. For our part we have always regarded with suspicion the grandmotherly restrictions imposed upon architects and builders; and we welcome the efforts of men like Sir W. Chance, and of Associations such as the British Constitution Association, to bring about a better condition of affairs for rural populations. The Local Government Board is, we are pleased to hope, in sympathy with a revised code of by-laws; but whether it will as yet go the lengths suggested by the British Constitution Association, as set forth in a model code (drawn up by the Building By-laws Reform Association) remains to be proved. In this code there is much to commend, but at the same time we deprecate such confused clauses as Nos. 45 and 50; the more perspicuous the wording, the better hopes for consideration. The confused phraseology in Acts of Parliament may be understood, even if deplored; the drafted Bills are much clearer than the final Acts, and we would recommend Sir W. Chance's Association to bear this in mind.

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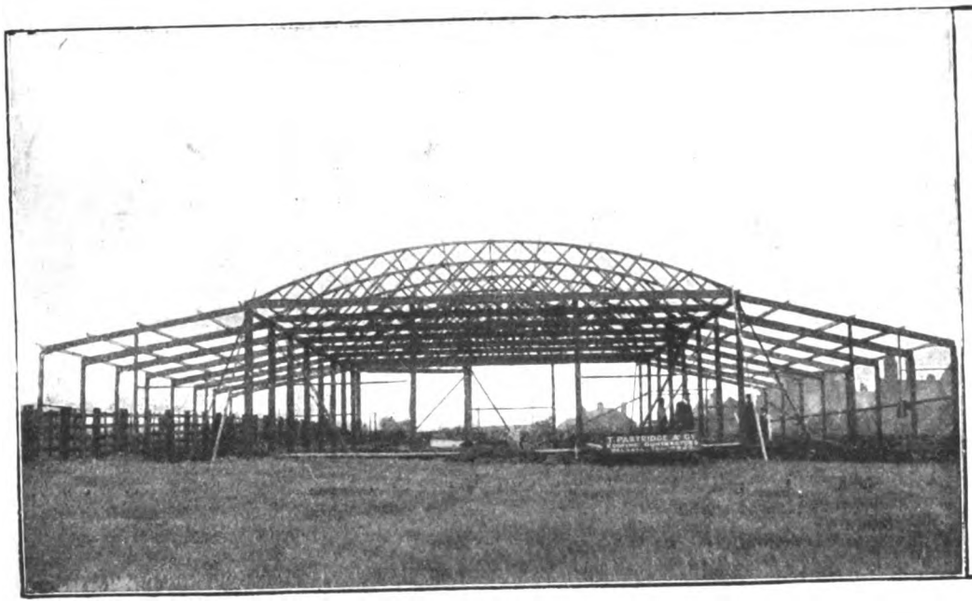
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BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Hungerford.—Eight workmen's dwellings. Mr. G. Elms, contractor, Saw Mills, Rookwood, Stockcross (£1,410).

Reading.—Kendrick Girls' School.

Wallingford.—Eight workmen's dwellings (£1,500). Council surveyor.

Windsor.—Drill Hall. Mr. Wheeler (of Reading), architect. Messrs. Collier & Catley, contractors, St. Mary's Butts, Reading.

CORNWALL.

Helston.—Six workmen's dwellings. Mr. Wearne, architect.

CUMBERLAND.

Stapleton.—Farmhouse, Gibbs Hill, for J. Kyle Trustees.

DERBYSHIRE.

Derby.—Derby School: alterations.

DEVON.

Barnstaple.—Technical School (£10,000).

Kingsbridge.—Grammar School. Mr. P. Morris, A.R.I.B.A., County Education architect, 1 Richmond Road, Exeter.

Torquay.—Villa at Barton. Mr. F. G. Moore, architect, 9 and 10 Fleet Street; also
Pair of villas, Studley Road.

DURHAM.

Coxhoe.—Concert Hall, &c., for the Social and Literary Institute. Mr. W. A. Kellett, architect, 2 South Road, Bishop Auckland.

Houghton-le-Spring.—House, Bankhead, for Mr. T. Hodgson.

New Herrington.—Two double-tenemented houses, for Mr. G. McColl.

South Shields.—Proposed theatre. Mr. R. H. Moreton, architect.

Trimdon Grange.—Ten aged miners' homes (£1,400).

ESSEX.

Great Stambridge.—Four workmen's dwellings, for Rochford R.D.C.

Halsted.—Six Council houses (£1,500).

Hornchurch.—Parish Council Offices and Hall (£850).

Saffron Walden.—Isolation Hospital: additions. Mr. H. R. Bird, architect, 10 Union Court. Old Broad Street, London, E.C.

Tilbury.—Conservative and Constitutional Club, Dock Road (£2,400).

Tilbury Docks.—St. John's Church Hall (£2,000).

GLOUCESTERSHIRE.

Bristol.—School, Mangotsfield. Mr. R. S. Phillips, architect, Education Committee's Offices, Shire Hall, Gloucester.

Cheltenham.—Conversion of houses, the Promenade, into municipal offices (£5,600). Borough surveyor.

HAMPSHIRE.

Aldershot.—St. Augustine's Church-room (£2,500).
Two houses, Cemetery Road, for Mr. G. W. Chandler.

Eastleigh.—Council School, Winchester Road: additions. Mr. A. L. Roberts, County Education architect, The Castle, Winchester.

Southampton.—Baptist Church, Shirley (£5,000).

LANCASHIRE.

Liverpool.—Picturedrome, Westminster Road, for Mr. W. Gordon.
Picture Theatre, Derby Lane, Stoneycroft, for Mr. B. N. Hanmer.

Whitworth.—Weaving shed (for 400 looms), for Messrs. H. T. Normanton & Sons.

LINCOLNSHIRE.

Grainthorpe.—Conservative Hall.

MIDDLESEX.

Hornsey.—St. George's Parish Hall, Cranley Gardens, Crouch End.

MONMOUTHSHIRE.

Bedwas.—Council Offices, Newport Road. Mr. A. S. V. Taylor, Council surveyor. Mr. E. James (of Ystradmynach), contractor (£2,286).

Cwm.—W.M. Chapel. Mr. R. L. Roberts, architect, The Firs, Abercarn.

Panteg.—Six houses, Blaendare Road. Messrs. Griffiths Bros. (of Pontypool), builders.
House, Pontypool Road, for Messrs. J. Burgoyne & Son.
Shop and five houses, New Road, for the Blaenavon Co-operative Society.

NORTHUMBERLAND.

Hexham.—Proposed Hospital, Lough Lane.

Newbiggin.—Infectious Diseases Hospital (£3,600).

Newcastle-on-Tyne.—St. Paul's parochial buildings, Havelock Street (£2,500). Mr. A. B. Plummer, F.R.I.B.A., diocesan architect, 13 Grey Street. Mr. G. H. Mauchlen, contractor, Moor Street.

SHROPSHIRE.

Oswestry.—St. Martin's Schools: additions. Mr. W. H. Spaull, F.R.I.B.A., architect, 24 Upper Brook Street.

SOMERSET.

Williton.—Territorial Drill Hall.

STAFFORDSHIRE.

Lichfield.—Two houses, Birmingham Road, for Mr. C. Crane.

Stafford.—The Borough Hall: additions and alterations. Messrs. Adams & Pemberton, contractors, Wolverhampton Road (£860).

Tamworth.—Church School, for Croxall and Edingale.

West Bromwich.—Electricity Works: boiler house, &c. (£4,000).
Isolation Hospital: new block (£2,100).

SURREY.

Epsom.—Conservative Club: additions.

Guildford.—Woodbridge Hospital: additions and alterations (£3,000 to £4,000).

Oxted.—Merle Common Council School, Staffhurst Wood: enlargement for additional 100 places.

SUSSEX.

Arundel.—Church Hall (£1,350).

Brighton.—Electricity Works, North Road: alterations. Messrs. G. Lynn & Sons, contractors, Marlborough Street (£1,830).
Training College: hostel (£10,000).

Horsham.—Council School, Oxford Road. Mr. H. P. Roberts, F.R.I.B.A., County Education architect, "Thurloe House," High Street, Worthing.

WARWICKSHIRE.

Bedworth.—Proposed Mission Church.

Coleshill.—Proposed Public Hall, High Street.

Collycroft.—Four houses, Wood Street, for Mr. C. W. Dawkins.

Coventry.—Factory, garages, and offices. Little Park Street, for Mr. E. Harris.
Two garages, Barras Lane, for Messrs. E. & A. Mayo.
Two houses, Broadway, for Messrs. S. Cox & Co.
Fourteen houses and house with shop, Bray's Lane, for Mr. G. Claridge.
House, Clay Lane, for Mr. H. J. Emery.
Two houses, Crabmill Lane, for Mr. H. Hiorns.
House, Holbrook's Lane, for Mr. J. A. W. Clarke.
Two houses, Holbrook's Lane, for Mr. W. Houghton.
Six houses and house with shop, Swan Lane, for Mr. F. Brookfield; also
Four houses, Brighton Street.
Six houses, Swan Lane, for Mrs. J. Isaac.
Six houses, Swan Lane. Mr. J. Isaac, builder, Foleshill Road; also
Twenty-three houses and house with shop, Queen Mary's Road.
Twelve houses, Dugdale Road, for Mr. J. Twigg, sen.
Six houses, Edmund Road. Mr. G. H. Broad, builder, Radford Road.
Six houses, Harefield Road, for Mr. Matthews.
Two houses, Harefield Road, for Mr. H. Whiteman.
Eight houses, Queen Mary's Road, for Mr. Clifton.
Three houses and house with shop, St. George's Road, for Mr. E. Sutton.
Seven houses, St. Margaret's Road, for Mr. J. Gardner.
Eight houses, Welland Road, for Messrs. Gilbert & Griffin.
Eight houses, Freeman Street, for Mr. C. A. Newbold.
Two houses, North Street, for Mr. F. Alcock.
The "O Rare Ben Jonson" public house, New Street: rebuilding, for Messrs. Phillips & Marriott, Ltd.

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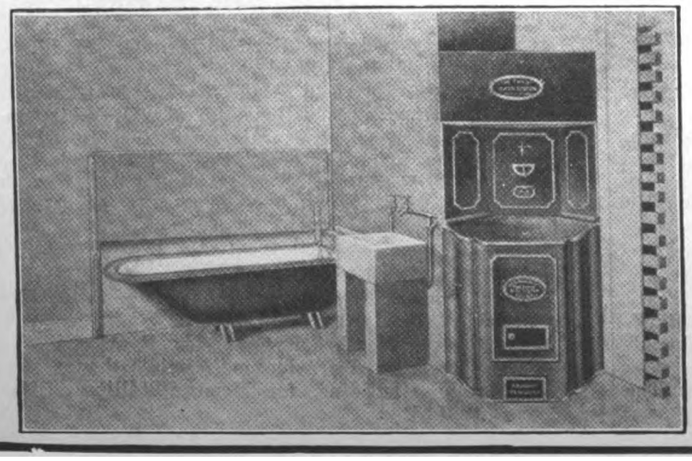
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ENGLAND—*continued.*

WARWICKSHIRE—*continued.*

Foleshill.—Public abattoir (£6,000). City engineer (Coventry).

Four houses, Holbrook's Lane, for Messrs. Goode & Son.

House, Windmill Road, for Mr. E. Pearson.

St. Paul's School, Foleshill Road and Broad Street.

YORKSHIRE.

Barnoldswick.—Council School (£13,500).

Batley.—Police Station, Court, and inspector's house (£6,300).

Brierley.—Council School for 200 places.

Darfield.—Sixty-seven municipal houses.

Dewsbury.—Ninety-three Council houses, Borough Park (£22,000).

Doncaster.—The "Palladium" Picture Theatre, St. Sepulchre Gate. Mr. J. B. Richardson, architect, Priory Place.

Halifax.—U.M. Church and Sunday School, Morley Road, Wheatley. Messrs. Patterson & Son (of Sleaford), contractors (£4,500).

Idle.—Residential school, Thackley (£5,330).

Lofthouse Gate.—Working Men's Club: alteration and extension. Mr. W. Hartley, architect, Town Hall Chambers, Wakefield.

Sedbergh.—Twelve working-class cottages, Station Road. Mr. J. Stalker, architect, 57 Highgate, Kendal.

Skipton.—Congregational Church. Mr. J. Totty, architect, 20 Moorgate Street, Rotherham.

WALES.

Corwen.—Children's Home, for the Board of Guardians (£1,200).

Hirwain.—Thirty-five houses, for the Bute Colliery Building Club. Mr. A. S. Cameron, architect, 1 Glanant Street, Aberdare.

Pontardawe.—Two houses. Mr. J. C. Rees, architect, Parade Chambers, Neath.

Wrexham.—Forty-three Council houses, Holt Road.

Electricity Works: extension (£3,000).

SCOTLAND.

Clydebank.—Gaiety Theatre: proposed alterations (£1,500 to £2,000).

Dumfries.—Forty-eight municipal houses, Milldamhead.

Dundee.—Proposed sick children's hospital.

Villa, Arbroath Road, for Mr. A. MacDonald.

Leith.—School, Duncan Place: rebuilding.

Tenement of houses, Primrose Street, for the Edinburgh Co-operative Building Company, Ltd.

IRELAND.

Ballytarsna (Co. Tipperary).—House. Mr. J. T. Walsh, C.E., architect.

Castlerea.—Dispensary and residence, for the Board of Guardians. Mr. M. J. Leech, architect.

Coleraine.—Picture Theatre, for the Coleraine Picture Palace Company, Ltd. Messrs. W. J. Given and J. S. Kennedy, joint architects.

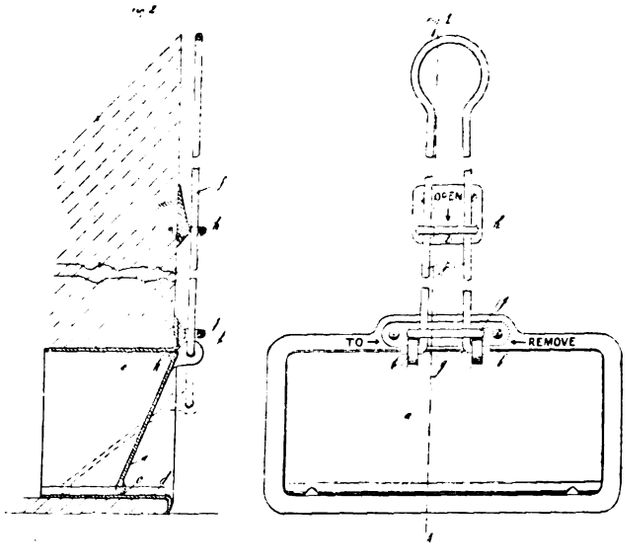
Omagh.—Labourers' cottages.

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 13,412. June 10, 1913.—Valves for Ventilation. C. W. Ferrier, architect, 11 Waterloo Place, Pall Mall, S.W. This invention relates to improvements in valves for ventilators, air-ducts, and air-trunks of the kind wherein the flow of air passing through the opening is regulated at will by varying the inclination of a pivotally-mounted plate or flap which deflects in an upward direction the air passing through the opening. The object of the invention is to provide a valve for use particularly with ventilator air inlets as often provided behind hot water or steam radiators or in connection with heated or chilled air distribution installations, which shall only project to a very small extent beyond the opening whatever be the position of the plate or flap and which may be readily cleaned. In this invention the plate or flap, instead of being pivotally mounted on or secured to the wall box and of a height and width equal to that of the opening as heretofore, is of a height greater than that of the opening (thus preventing it from being brought to a vertical position). Fig. 1 is a front elevation of a valve wherein the flap is actuated and held in position by means of a spring handle. Fig. 2, a vertical cross section on line A-A (Fig. 1). A is a plate or flap provided at its upper edge with a pair of lugs b b and resting at c on the bottom d of a wall box e. F is a substantially U-shaped handle whose lower extremities are each bent round at g and passed through a hole in the corresponding lug b and are retained therein by the resiliency of the handle which is such as to tend to force apart the limbs. The handle is passed through a pair of guide or bridge pieces h and j and slides friction tight therethrough and thus serves to hold the handle and plate a in the required position. The upper inner edge of the plate is thickened and shaped as at k to more effectually close the opening when the plate is brought to the closed position as in Fig. 2, whilst its lower edge is rounded off to facilitate the travel of the plate on the bottom of the box e. In use, to close the valve the handle is raised to its uppermost position, thus bringing the plate a to the position shown in full lines in Fig. 2, and is opened by forcing down the handle f, which causes the lower edge of the plate to slide over the bottom of the box as shown in the dotted lines in Fig. 2. The plate a may be readily removed by pressing together the limits of the U-shaped handle so as to disengage the bent portions g g from the lugs b b and permitting the removal of the plate a from the box and the cleaning of the valve. June 10, 1914.



PATENT SPECIFICATIONS PUBLISHED JULY 9, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 13,830. June 16, 1913.—R. H. Gillson, 12 Lewis Place, Oldfield Lane, Wortley, Leeds; P. Townend, Station Road, Cullingworth, near Bradford; and H. W. Simpson, 3 Osborne Villas, Birkdale Road, Dewsbury. Saws or blades for cutting stone.

14,220. June 19, 1913.—Dated under International Convention Dec. 21, 1912. Max Wassermann, Wippermann Str. 26, Kalk, Cologne. Process for the production of paint.

14,805. June 26, 1913.—C. H. Provis, Highfield, Mutley Road, Mannamead, Plymouth. Building construction.

16,797. July 22, 1913.—C. A. Newton and Harry Newton, 21 Market Place, Derby. Ventilating apparatus.

17,098. July 25, 1913. H. C. J. Taylor and William Purslow, 15 Smith Street, Hockley, Birmingham. Ball or float taps or valves.

21,089. Sept. 18, 1913.—Wm. Anderson, Scotia Villa, Newport, Fife. Ball-cock cisterns for flushing water closets.

21,988. Sept. 30, 1913.—F. H. Livesey, 25 Booth Street, Manchester. Appliances for attaching paper and other sheets to transparent and other drawing boards.

22,142. Oct. 1, 1913.—Hinrich Schmaljohann, Lissa, Posen, Germany. Iron concrete hollow ceilings or floors made without the use of a centering or scaffolding.

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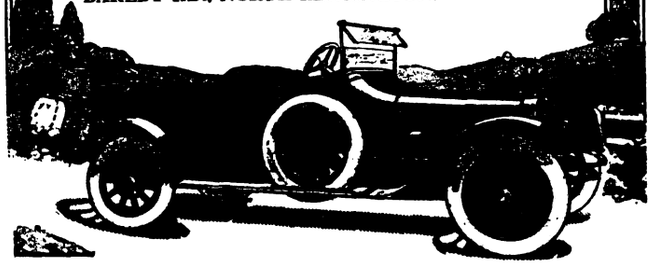
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18,506. Aug. 14, 1913.—J. D. Dunn, East House Farm, Seaham Harbour, Durham. Gate hinges.

25,277. Nov. 5, 1913.—F. R. Hedman, 54 Karlavagen, and C. A. Kilgren, 9 Langholmsgatan, Stockholm, Sweden. Plates for walls and the like.

26,993. Nov. 24, 1913.—J. H. A. Wrissenberg, architect, Bremen, Am Wall 158, Germany. Reinforced concrete structures.

29,710. Dec. 24, 1913.—Dated under International Convention Jan. 27, 1913. Otto Wilhelmi, Maihof, Maihofstr., Lucerne. Method of making concrete or reinforced concrete (ferro-concrete) piles.

316. Jan. 6, 1914.—F. J. Commin, 5 Victoria Street, S.W. Apparatus for evenly distributing water, sewage, or other liquids.

506. Jan. 8, 1914.—Lawrence Freeman, 30 Stephenson Street, Wolverhampton. Glazing bars, ridge-cappings, skylights, and the like, and in the manufacture thereof.

8,231. April 1, 1914.—H. J. Millerchip, 6 Palmerston Road, Earlsdon, Coventry. Glazing bars for use in the construction of horticultural buildings, greenhouses, and the like.

19,758. September 1, 1913.—C. H. Roberts, Coombe Park, Torpoint, Anthony, Cornwall. Stains or colouring preparations for wood and like surfaces.

20,086. September 5, 1913.—W. A. Price, 133 Rustlings Road, Sheffield, and E. A. Claremont, Broom Cottage, High Legh, Cheshire. Clips or stops for glazing bars.

20,098. September 5, 1913. T. L. Barks and A. R. Byatt, 47 Queen Anne Chambers, Westminster, S.W. Roof glazing and the like.

21,466. September 23, 1913.—T. W. Fletcher and Fletcher, Russell & Co., Ltd., Palatine Works, Warrington, Lancs. Gas cooking stoves.

28,289. December 8, 1913. Dated under International Convention, February 5, 1913.—Albert Wolff, 108 Avenue de Villiers, Paris. Fire extinguishing apparatus.

956. January 13, 1914.—The "Sanitas" Co., Ltd., and E. P. Kingzett, Locksley Street, Limehouse, London. Drain testers.

2,366. June 4, 1913.—Leonard Bond, 20 Dinting Lane, Glossop, Derbyshire. Apparatus for heating by circulation of hot water.

2,720. February 2, 1914.—Eugen Dau, Hohenstein, West Preussen, Germany. Automatic fastenings for window and door shutters.

2,788. February 3, 1914.—J. F. L. Nowell, 14 Bassett Road, North Kensington, and Abner Wallis, The Bryn, Thorpe Bay. Metal flooring.

2,994. December 11, 1913.—Charles Shaw, Prince's Chambers, Princess Street, Wolverhampton, and William Smith, Ruiton House, Dudley. Ball and float valves.

4,743. February 24, 1914.—Thomas Watson, 163 Bury New Road, Manchester. Disinfecting attachments for flushing cisterns.

6,766. March 17, 1914. Dated under International Convention, March 18, 1913.—Firm Spezialfabrik fur Gesundheitstechnische Einrichtungen Emil Katzenberger, 11 Bothmerstr, Munich. Water closet pans, washing basins or the like.

7,895. March 28, 1914. Dated under International Convention, May 22, 1913.—H. S. Taft, 704 9th Avenue, Seattle, King, Washington, U.S.A. Reinforced concrete column and floor construction.

2,336. Jan. 29, 1914.—Alexander Johnston, 37 Moray Place, Edinburgh, and the North British Rubber Company, Ltd., of Castle Mills, Edinburgh. Flooring, paving, and like coverings.

2,493. Jan. 30, 1914.—Otto Nitsch, 2 Wilsdorfer Strasse, Harburg-on-the-Elbe, Germany. Electric lock and alarm apparatus.

3,720. Sept. 24, 1913. Jan Nesetril, 333 Podskalska, Prague 11, Austria. Mixing device for cement and fibrous materials.

5,333. March 2, 1914.—E. J. Sadgrove, architect and surveyor, 9A Little James Street, Bedford Row, W.C. Automatic opening of trap doors, skylights, and the like.

5,658. March 5, 1914.—Dated under International Convention March 5, 1913. Carl Ruetz, Brugg, Switzerland. Automatic device for starting and stopping the cutting apparatus in brick-cutting machines.

6,057. March 10, 1914.—G. P. Crumbaugh, 5126 North Second Street, St. Louis, Missouri, U.S.A., and E. W. Grove, 2226 Pine Street, St. Louis, Missouri, U.S.A. Lathes for plastering or the like.

5,460. March 3, 1914.—Alonzo Felton, of the Gilmour Door Company, Ltd., 51 Berners Street, Oxford Street, W. Glass lights or windows and similar structures.

9,720. April 20, 1914.—Dated under International Convention May 10, 1913. G. F. Tripp, Flint, Genesee, Mich., U.S.A. Domestic fireplaces and chimneys therefor.

5,696. March 7, 1913.—Dated under International Convention March 7, 1912. Henry Callewaert, of Avenue van Valxem 307, Forest, Belgium, and Co-operative Patents, Ltd., 712 Salisbury House, London, E.C. Manufacture of white paints.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Proposed R.I.B.A. New Charter.

SIR,—The thanks of Licentiates are due to Messrs. Wrench & Winder for their letter in your issue of July 10, and I trust that it will have the effect of a serious warning to those who may have contemplated such a rash act as severance from the Institute. No, Sir; inside the ranks we can do something, once outside we are helpless and hopelessly lost. A certain well-known politician has earned a somewhat unenviable notoriety for his remark "Wait and see"—let us accept Messrs. Wrench & Winder's advice. See what is decided on in the new Charter, and then act unitedly; and even the R.I.B.A. Council will have to consider such a number of members. By that means what at present is a far from satisfactory condition of affairs may after all lead to such a united and powerful body, so thoroughly representative of the profession that all, whether Fellow, Member, or Licentiate, may be proud to belong to such a body of professional men.—Yours, &c.,

LICENTIATE R.I.B.A.

Birmingham: July 13, 1914.

Herculaneum.

SIR,—In the year 1909 a villa in the outskirts of Herculaneum was excavated, when valuable manuscripts and art treasures were found in a perfect state of preservation. As we read, Herculaneum (the sister pleasure city of Pompeii) was buried under a stream of warm liquid lava. The disaster was so sudden that the art treasures and most of the inhabitants of the city who could not escape were cast in liquid lava and must be in a perfect state of preservation, as was found in excavating above-mentioned villa. In 1909 there was some talk of the Italian Government seriously undertaking the excavation of Herculaneum, the richest mine of art treasures in Europe. However nothing further has been done in the matter since that time and the "Nine-days' Wonder" seems to be a thing of the past. Pompeii has now been cleared of the ashes it was buried under, but with the exception of the magnificent decorations not many art treasures have been found. The inhabitants of Pompeii had time (under the rain of ashes, which lasted several days) to remove with their belongings, whereas the inhabitants of Herculaneum were suddenly overwhelmed by a stream of warm liquid lava, as I say above. The most interesting discoveries would be made if the work of excavating Herculaneum was systematically undertaken. The work would be laborious and costly, but the results would be of great benefit, showing the life, &c., of this pleasure resort of many centuries ago, as well as the recovery of inestimable art treasures, manuscripts, &c. An international syndicate might be formed to carry out this important work, and every civilised country would benefit by the treasures found, which have been buried for so many centuries, especially the art world (*vita nostra brevis est et ars longa est*). If the academies of Europe undertook this important and interesting work it would without doubt be successful.—Yours obediently,

HENRY H. B. SANG,
Architecte-Decorateur.

PITTENWEEM Town Council have agreed to proceed with the new Town Hall scheme according to the plan prepared by Messrs. Haxton & Walker, architects, Leven. The estimated cost is £11,050.

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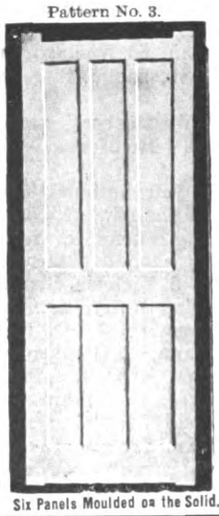
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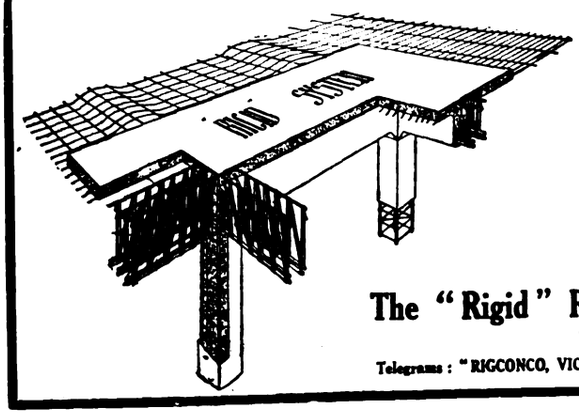
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THE ARCHITECT

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FORTHCOMING EVENTS.

Saturday, July 25.

Victoria and Albert Museum : National Competition Exhibition opens.

Architectural Association : Visit to Blenheim Palace by kind permission of His Grace the Duke of Marlborough.

Wednesday, July 29.

Annual Excursion of Northern Architectural Association at Carlisle.

Monday, August 3.

Summer School of Town Planning opens in the University of London School of Architecture, at University College (August 3-15).

Monday, August 16 to 21.

Architectural Association : Excursion commences. Headquarters at Devizes.

ARCHITECTURE AT THE ROYAL ACADEMY.—IV.

CONTINUING our review of domestic architecture at the Royal Academy, we note Mr. Oswald P. Milne's design for a "House at Huntercombe, Oxfordshire," in which is adopted a Georgian manner, purple brick walling with red quoins, the windows finished with outside louvred shutters painted green. Accentuation of interest as well as relief is given by a central window in stone, with sundial over, and a high-pitched tile roof, unbroken by dormers, gives dignity and mass to the whole composition.

Messrs. Unsworth & Triggs have two drawings on exhibition, both well-executed water-colours. In a "House near Gerrard's Cross" they have adopted the widely spaced timber frame method with plastered surfaces between, and by a full use of gables and a loggia-porch under a pent roof produce a picturesque composition. Their "House at Haslemere" is redolent of the feeling of early English Renaissance, a red-brick house with diapering, mullioned and transomed windows, pinnacled gables, stone entrance doorway, tile roofs, and cut-brick chimneys.

An irregular composition of grey brick walls with diapering and a big roof with gables and dormers is the feature of the "House at Preston-Condover" by Messrs. Atkinson & Alexander, and forms a picturesque group with a covered well in the paved forecourt. Symmetry, on the other hand, is the keynote of the same architects' "House at Ealing, W.," which is designed in purple-grey and red brick, with a central feature of doorway and window over in stone, the whole surmounted by a high-pitched pantile roof.

The contribution of Messrs. Lanchester & Rickards to the domestic section of the exhibition is "Additions to Cold Overton Hall, Leicestershire," a new front of low buildings in free renaissance treatment to an apparently big and uninteresting house. The authors show their design in a perspective supplemented by geometrical elevation and plan. Mr. Arthur Keen is represented by one drawing only, a "House at Little Heath, Surrey," a sensibly picturesque design, of which the elements are white walls on the ground floor, with orange-yellow tile-hanging on the upper storey, a white cornice and brown tile roofs. Mr. Charles H. B. Quennell sends a drawing of "Templehill House, Hampstead," which in its presentation of purple brick, white frames, and blue louvred sun-shutters does not do justice to the quiet dignity of the original and would decidedly be described by the Philistine—and with justice—as "heavy."

"Bilsborrow Hall, Lancashire," by Messrs. Woolfall & Eccles, is a seventeenth-century type of stone house, with gables, mullioned windows, and bays of North-country flavour shown in an uncomfortable bird's-eye perspective. Mr. W. Rupert Davison's "Cherry Wood, Woldingham," is a picturesque cottage, with brick ground floor, plastered upper storey, and a big roof with dormers. Mr. Edward P. Warren in his drawing of "Maesruddud, Monmouthshire, from the north-west: completion of house begun in 1900," does not make it clear which is the original and which the completion, and we may therefore regard the design as a complete entity, a pleasing example of symmetry in mass with asymmetry in detail, a dignified yet piquant stone house of seventeenth-century renaissance flavour, with mullions and transomes, oriels, gables, and parapets, surmounted by a slate roof.

Mr. Cyril A. Farey has in the exhibition three of his characteristic and charming water-colour drawings. "Proposed House at Forest Row, Sussex," has an interesting plan, in which from a "corps de logis" side-wings of lesser height project and enclose a forecourt treated as an atrium or cloister. For the rest the drawing is a bird's-eye view and skied, so that little can be seen of the detail of the design beyond white walls and grey roofs. "House at Aversham" is a fresh drawing of a design that has already appeared in *The Architect* of a white-walled house with strong eaves, a pergola-piazza extending on one side to balance a motor-house on the other. "House at corner of Frognal Lane and Greenaway Gardens, N.W.," is a pretty water-colour drawing to small scale.

Mr. William T. Walker has been allowed two frames in which to show his design for "Cariad, Goring-on-Thames." The entrance front indicates a big house picturesquely composed with a half-timber upper storey and gables. A detail of the porch gives us a view of open timber framework on brick walls with richly carved barge boards to the roof gable, the whole reminiscent of lych-gates and church porches. The entrance lodge appears to consist of twin buildings either side of the roadway connected by a roof. Mr. Maurice E. Webb's "House at Noordwyk, Holland," is a simply treated brick house, with a loggia between projecting gabled wings, the low-reaching roof broken by a central dormer. A clever piece of design is the end treatment of the house, with a curly gable between a pair of chimney stacks.

Mr. Edward J. May has but one drawing exhibited, showing a "House at Chislehurst," which is an admir-

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able example of a well-balanced asymmetrical composition of white walls, tile roofs, and red brick chimneys, in which both internally and externally there are many *piquant* features that in masterly fashion seem natural to the plan, and whilst giving points of interest in no way disturb the balance of the whole. Messrs. Lionel F. Crane & W. S. Willan show a "Design for a large Country House," a red brick E-planned front of seventeenth-century character, symmetrical in mass, with slight variations in window treatment, diapered parapets and gables. The central projection containing the porch, with stone doorway and room over, has a hipped roof running back to a stack of three flues, which suggests somewhat of a *tour de force* in planning.

"St. Serf's House, Roehampton," by Mr. Frank S. Chesterton, is a long fronted symmetrical building, with offices in a projecting wing which would appear to be of eighteenth-century type in its one-room deep plan, as well as in its use of red brick with white louvred sun-shutters. A clever piece of design is to be seen in Mr. J. E. Dixon-Spain's "Labourers' Cottages, Lincolnshire," a pair made into one building by a big central gabled dormer that runs up from the main roof over a single-storey ground floor. Purple brick with red arches are contrasted with a patterned plaster surface to the gable. The same architect's "Additions, 'Dawsmere,' Lincolnshire," is an adaptation of French château motif, with one storey and mansard roof in green slate with dormers, purple brick walls and red arches, and surrounding architrave to windows, the central one of which is dignified by stone work with a pediment.

NOTES AND COMMENTS.

It is all very well for the members of the London County Council to throw over the report of the General Purposes Committee, which set forth their reasons for the selection of a Latin motto as follows:—

"In considering the selection of a motto we have had in mind the fact that the motto is a perfectly independent part of the arms, and has no necessary connection, either by custom or practice, with the coat. This leaves the question of the motto entirely open. Of the various suggestions put before us the only one definitely connected with the history of London is '*Loci dulcedo nos attinet.*' This is derived from the great Roman historian Tacitus, who, describing the events of A.D. 61 and the decision of the Roman general Suetonius not to defend London against the British Queen Boudicca, alludes to certain sections of the people who would not desert London and come under the protection of Suetonius. The quotation is as follows:—

"Neque fletu et lacrimis auxilium eius orantium flexus est quin daret profectionis signum et comitantes in partem agminis acciperet: si quos inbellis sexus aut fessa aetas vel loci dulcedo attinuerat ab hoste oppressi sunt.

"(Unmoved by the tears and entreaties of the inhabitants he gave the signal to march, receiving within his lines all that would come with him. Those whom weakness of sex, infirmity of age, or the charm of the place held enchained, were cut off by the enemy.)

Tacitus, *Annals* XIV., c. 33.

"It is clear from this important historical reference that at this early period London, owing to its situation and amenities, possessed more than ordinary attraction, sufficient, indeed, to induce some of its inhabitants to stay behind at the risk of their lives. Since that time the 'charm of the place' has never ceased to find reflection, whether in the growth and prosperity of the urban community or in the records and literature relating to it. In the famous tract of Fitzstephen describing London in the reign of Henry II. precisely the same feeling was expressed; while throughout the Middle Ages, and in the Tudor period, when London was fully open to Continental travellers, the same sentiment found expression.

"The only change suggested in the motto is in the tense of the verb, so as to make it applicable for all time instead of only to the particular period with which the historian was dealing, and in the alteration of the object so as to make the reference applicable to the inhabitants of London at all times instead of only to the particular people referred to by Tacitus. Such alterations do not destroy in any sense the historical origin or the aptness of the proposed motto.

"Should these considerations alone fall short of conclusive argument in favour of the adoption of this motto, we may add a supremely important fact which we think will be decisive on this point. It is that the mention by Tacitus in the first century is actually the first historical reference to London that exists. This seems to us to be all-important. It satisfies the historic sense, and by going back to so trustworthy and, as it happens, so illuminating an authority, we are of opinion that a motto is secured of far greater significance than any other, however beautifully worded or conceived."

It may be ostensibly more patriotic to call for a motto in English, but the Council has laid a difficult task upon its General Purposes Committee in so prescribing, as may be gathered from the multitude of suggestions that have been already put forward, some of which are trite, some ludicrous, none all-compelling. "Sweet Thames run softly" sounds prettily, but is scarcely *dignified* or peculiarly significant—and why not from the same source, "Two swans of goodly hue"?—*i.e.* the City and the County of London. A motto should express a principle, a rule of life, an aspiration, and all proposals should be barred that do not fulfil this condition. No bragging or blustering assertion should be approved. To express pithily the joint principle or aspiration of so inchoate an organism as the County of London may well puzzle our pundits, and it would not surprise us if they fell back on the example of the Venetians in similar case and propose as the motto of the County of London—"LONDON."

We should like to see adopted the suggestion that Sir Hubert von Herkomer's house, "Lululaund," at Bushey, should be preserved intact as a memorial of the painter and his father and uncles, skilful craftsmen in sculpture, wood-carving, and weaving.

The Syllabus of the Summer School of Town Planning, to be held in the University of London School of Architecture, at University College, from August 3 to 15, includes lectures on "The Practice of Town-Planning," by Mr. Raymond Unwin; "Town-Planning in the Past and in Foreign Countries," by Professor Adshead and Mr. Patrick Abercrombie; "The Town-Planning Act, and other Legal Aspects of the Subject," by Mr. Edmund R. Abbott; "The Engineering and Surveying Problems of Town-Planning," by Mr. G. L. Pepler and Mr. C. J. Jenkin; "Modern Town-Planning in Germany," by Dr. A. E. Brinckmann; "Modern Town-Planning in America," by Mr. John Nolen; "Tradition and City Development," by Mr. H. V. Lanchester; "Public Parks and Gardens," by Mr. Thomas H. Mawson.

There is some sense in the proposal of the two consultative experts of the Select Committee inquiring into the ventilation of the House of Commons as stated by the Parliamentary correspondent of the *Times*, but the idea is not new by a very long way. Their scheme would bring air into the House under the galleries and behind the benches. This system, of course, cannot be installed until it has been thoroughly tested by experiments in the Chamber. The chairman of the Select Committee, Mr. Charles Bathurst, is endeavouring to obtain the permission of members for the making of the necessary experiments during an early sitting of the House. If he fails in this, he hopes to invite a corps of soldiers or a company of nurses to visit the House during the recess and to listen to a lecture, while the consultative experts watch the effect of the new system of ventilation upon them.

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MEMORIAL TO THE LATE RICHARD NORMAN SHAW, R.A.

OUR illustration shows the bronze memorial tablet which has been fixed to the wall of one of his most notable works, New Scotland Yard, on the Thames Embankment, under the auspices of a committee of his pupils, friends, and admirers. The memorial was designed by Professor Lethaby, and the sculpture executed by Mr. Hamo Thornycroft, R.A.

The proposal to form a Parliamentary Committee consisting of members of both Houses interested in art is one that must commend itself to all our readers. The greatest evil from which architecture and other arts at present suffer is the combination of apathy and ignorance that enthrals the majority of the public. Such a committee as that proposed would evoke public interest, and, given the right membership, direct public intelligence towards a better appreciation and comprehension of matters artistic than at present exist amongst us. It might also be expected to lead up to an establishment of that Ministry of Art which many of us desire. We understand that the following members of both Houses have already accepted an invitation to join the proposed committee:—

Lord Crawford, Lord Bryce, Lord Curzon of Kedleston, Mr. A. A. Allen, Sir George Agnew, Lord Henry Bentinck, Sir Edward F. Coates, Mr. Stephen Gwynn, Sir Alfred Mond, Mr. Almeric Paget, Sir Gilbert Parker, Sir Herbert Raphael, Mr. Philip Snowden, Mr. Edward Wood, and Mr. Montague Barlow, hon. secretary *pro tem.*

When the A.A. Camera, Sketch, and Debate Club go on their wherry trip to the Norfolk Broads, they should not omit a visit to the Church of St. Mary the Virgin, Tunstead, one of the largest and most beautiful churches in the country, with a magnificent rood-screen, which, though mutilated by the Puritans, is still quite one of the best in Norfolk. An account of the church, with illustrations, appears in the *Church Builder* for this month.

Those architects who are intending to compete for the new London County Council schools should note that new "Building Regulations for Public Elementary Schools, being principles to be observed in planning and fitting up new buildings in England" are now issued, and will come into force from September 1, 1914. The regulations may be obtained (post free 3½*d.*) from the usual sources, Messrs. Eyre & Spottiswoode, East Harding Street, E.C.; Messrs. Wyman & Sons, 29 Bream's Buildings, Fetter Lane, E.C.; H.M. Stationery Office, 23 Forth Street, Edinburgh; and Messrs. E. Ponsonby, Limited, 116 Grafton Street, Dublin.

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The result of the appeal in the Lumsden case to the House of Lords must be regarded as eminently unsatisfactory, inasmuch as the appeal obtained no decisive judgment from the Court. In a matter of so much importance especial care should have been given to ensure a decision instead of the mere statement of a difference of opinion between each moiety of a bench of four law lords. On the whole, the result of the protracted and costly litigation in this case is that the opinions of the various judges show the obscurity of the Act, but the majority defines its meaning to be that increment value of a site may be liable to taxation when there is no increase in the value of the site, which to the ordinary citizen, who is not a lawyer, must be palpably absurd.

The correspondence in the *Times* on the possibility of a great London improvement by a remodelling of the Bedford Covent Garden Estate should suggest an opportunity for our *soi-disant* town-planning "experts" to show what they can do. But they must not confine their attention to vistas and *places*; they must show that their schemes will satisfy the requirements of Covent Garden Market, and, above all, that they will pay as commercial propositions.

LONDON COUNTY COUNCIL.

LOCK-OUT IN LONDON BUILDING TRADE.

CURIOSITY appears to be growing at Spring Gardens as to what redress, if any, the London County Council will ultimately exact in respect of building contracts which have been delayed, or entirely suspended, in consequence of the building lock-out. Under the terms of the contracts the chief architect may, in certain circumstances, issue a certificate to the effect that the work has not been prosecuted with "due diligence," in which event penalties on the contractors may ensue. On the other hand, it may, for divers reasons, be deemed politic to ignore the delays altogether.

Arising out of this condition of affairs, Mr. Walker asked the Chairman of the General Purposes Committee on Tuesday last what decision the committee had come to regarding the applicability of the strike clause in the Council's contracts for architectural work to the existing lock-out in the building trade.

Major Gray (chairman of the committee) replied that the time had not arrived for the issue of certificates by the architect, and he was therefore unable to forecast what the action of the Council would be. If the hon. member was referring to a matter which recently came before the committee, when it was suggested that the strike clause should be put into operation at once, he was able to say that reports had been received from the solicitor and the architect on the subject, and in view of those reports the committee came to the conclusion that they could not at present take any action.

Mr. Walker: Arising out of that answer, will the Chairman lay those reports before the Council, so that the Council may consider the matter?

Major Gray: That is a question to which I dare not reply without consulting the committee.

NEW LONDON SESSIONS HOUSE.

The resumption of the debate on the tenders for the new Sessions House furnished Labour members and Progressives with an opportunity to reiterate their allegation that the Council was "taking sides" in the building dispute and attempting to assist the employers by restricting the list of firms invited to tender to contractors participating in the lock-out. On behalf of the committee dealing with the matter it was, however, urged that an amendment moved by Mr. Dew—that fresh tenders should be invited from firms who had not locked out their workmen—was in itself distinctly partisan in that it sought to assist the workmen by excluding their employers from tenders for the Council's work.

Finally, an amendment moved by Major Gray was carried, to the effect that the tender of W. E. Blake & Co. be accepted, as recommended by the committee, provided the firm in question could satisfy the committee that they were prepared to comply with the requirements of the Council as to rates of pay and conditions of labour. A further amendment calling for the execution of the work by direct employment of labour was defeated.

COMPETITION NEWS.

BLAIRGOWRIE.—The Town Council on Monday night agreed that competitive plans be obtained for improving the Public Hall at a cost not exceeding £2,500, and that premiums be offered for these at the rate of £20, £10, and £5. The Council approved of the conditions under which the Mechanics' Institute will resign their trusteeship of the hall in favour of the Town Council. A committee was deputed to look at any adjoining properties it might be advisable to acquire before going on with the hall improvement scheme.

BRIGHTON.—The Town Council at a special meeting approved the report of the Special Aquarium (No. 2) Committee proposing the expenditure of 175 guineas to enable them to offer three prizes of 100 guineas, 50 guineas, and 25 guineas for competitive designs from architects, the plans obtained to be laid before the Council for their decision. A Councillor asked if the Council were authorised to make such an expenditure. He called attention to Finance Regulation 11, in which it said no expenditure exceeding £100 was to be incurred without the express sanction of the Council given after a report of the committee. Thus, in this case the Special Committee would have to report upon the matter, and the Finance Committee would have to report its approval. Finally it was decided to refer the whole matter to the Special Committee, and it will be reported upon at the next Council meeting.

GILDERSOME.—The Urban District Council invites architects to submit plans for twenty houses, to be built on land owned by the Council, at prices varying from £200 to £270, including land, streets, and sewers. No payment will be made for plans, but if the Council proceed with the scheme the architect whose plans are chosen will supervise the work, on terms to be agreed upon. Particulars from W. Wilby, surveyor, Council Offices, Gildersome.

LUTON.—The Higher Education Sub-Committee of the Bedfordshire Education Committee recommend that a special committee be appointed, consisting of the chairman of the Education Committee, Mr. Lindsell, Miss Amy Walmsley, and the Governors of the Luton Modern School, and that they be instructed to issue advertisements inviting architects to compete for the design of the school, to request eight of such architects to submit designs, and to obtain professional advice with reference to the plans submitted, and to report thereon to the Education Committee.

ILLUSTRATIONS.

ENTRANCE TO EXTENSION OF REFUGE ASSURANCE COMPANY'S OFFICES, MANCHESTER.

IN *The Architect* of May 6, 1910, we published a drawing with description of Mr. Paul Waterhouse's design for extensions to the Refuge Assurance Company's offices, Manchester. We now illustrate by a photograph part of the executed work.

BELTINGHAM, NORFOLK.

FROM the drawings of our travelling student, Mr. H. St. John Harrison, we publish illustrations of the interesting house Beltingham Hall, and a detail of the church at Beltingham.

CATHEDRAL OF BARI, APULIA, ITALY.

WE gave a general view, with description, of the cathedral of Bari in *The Architect* of June 26. We now illustrate the interior and one of the windows from this cathedral.

OXFORD COLLEGE SERIES.—NO. 144.—CORPUS CHRISTI.

WE now illustrate in this series the garden front of the Fellows' building at Corpus Christi College.

BRITISH BANK OF SOUTH AMERICA.

WE are informed that in this new building, illustrated in *The Architect* of July 10, Messrs. Hobbs, Hart & Co., Ltd., installed all the strong-room accommodation, comprising a special securities room on their latest improved principles, drill, hammer, oxy-acetylene blowpipe, and liquid-explosive proof, steel securities-safes and fittings for the Bank's own use, together with steel strong-room doors for the tenants' part of the building.

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ROYAL ARCHÆOLOGICAL INSTITUTE SUMMER MEETING.—II.

THE second day of the above meeting was on

Wednesday, July 15.

It opened with a train journey to Tutbury and a walk of half a mile to the church, *en route* passing the spot where some 300,000 coins were dug up from the river bed in 1831. These were the contents of a military chest for the Earl of Lancaster's army which was being hurried across the ford before King Edward II. could seize it. The first visit was to

TUTBURY CHURCH.

Seen casually from the road this church, conspicuous though it is, would scarcely win a second glance from the passer-by. This is because the apsidal chancel, which is the most prominent feature from the east, looks so modern. It was built from the design of George Edmund Street and seems to give a date to the whole structure. A delightful surprise awaits anyone who approaches the building. The nave of six bays and the two western bays of the south aisle were probably erected between 1080 and 1089. The rest of the south aisle is fourteenth century; the tower was built on to its west end at a late period, its east wall being carried by an arch crossing the aisle. Both as an interior and exterior the nave is truly grand. The carving in the interior of capitals, arches and string-courses is astonishingly refined. The great west doorway is particularly elaborate and is one of the finest of its date in this country—the richest order of all is the inner one of alabaster. The lintel of the south door shows the remains of a boar hunt in slight relief. There are but three of this Celtic class in Staffordshire, viz., at Tutbury, at Ipstones, and near to Dudley.

Mr. Charles Lynam, F.S.A., in an historical and architectural description, stated that Henry de Ferrers is said to have commenced the church in 1080. It lies within 300 yards of the castle walls upon the declivity of the same hill. The cloisters, dormitory, and other apartments for the monks immediately adjoined on the north side. The priory covered over three acres, and it was richly endowed by the noble founder and his descendants. One of the curious grants was a tithe of the skins of the stags taken by the dogs of the Earl Ferrers. Whether Tutbury should properly be classed amongst the alien Priories is doubtful. It was certainly seized by King Edward I. as such. About the middle of the fourteenth century a mandate was sent by the Archdeacon of Norwich to the Principals of the monasteries in the vicinity to eject the foreign monks who had intruded themselves into it and to reinstate it in the full exercise of its former rights. About the time of the Dissolution the temporalities totalled £242. The site of the priory was granted by Elizabeth to Edward, Earl of Lincoln; but it was finally transferred, together with most of the estates, to Sir William Cavendish, the direct ancestor of the Duke of Devonshire, who pulled down most of it, and with the materials built a house in Tutbury. After the Suppression the priory church became parochial and the advowson remained in the Cavendish family till some few years ago.

Sir W. H. St. John Hope, in adding to Mr. Lynam's remarks, pointed out there could be no doubt that Tutbury was another instance of a divided church, *i.e.*, the eastern portion formed the priory church and the western was that for the parishioners. At the time of the Suppression the authorities pulled down all the part belonging to the monks, but as usual they left the other standing. This division would account for the difference in plan of the two eastern piers of the present nave from the other piers. The former were probably included in the priory church which would extend two bays west of the crossing, and they would also give abutment to the great central tower then existing. Tutbury shows so many affinities with the cathedral at Rochester that it must be considered as contemporary with its nave, that is dating from about the first half of the twelfth century. The clerestory was here taken down. The west end is precisely reminiscent of Rochester, both within and without; on the inside there is a similar arcade above the door in both. The work here become a little more ornate as it proceeds westward. The aisles were originally vaulted, for in the south aisle are the remains of the vaulting shafts. Whether such a considerable span as the nave was meant to be vaulted is open to question. Personally, said Sir William, he did not think it was. The shafts, however, were originally carried up above their present height. Probably they supported a wooden ceiling. Separating the parochial nave from the priory church would be a screen with its parish altar and two side doors. The latter were, of course, required for enabling the "stations" to be made by the monks on Sundays and holy days around the church—an important ceremony which, amongst other things, enabled them to assert their superior rights over the parish church. If the monastic choir extended, as just suggested, two bays beyond the tower crossing, this would account for the reconstruction of the east ends of the aisles.

After an inspection of the building a move was made up the hill to all that is left of

TUTBURY CASTLE.

For centuries, said Mr. Lynam, this once strong castle occupied a very important position in the history of the whole country. Kings, queens, and nobles have visited the stronghold from very early times. Under the Saxon Heptarchy the town and castle were comprised within the limits of the extensive kingdom of Mercia. It is nearly certain that Ethelred, who acceded to the throne in 674, made it one of his principal places of residence. Two hundred years later Tutbury was overwhelmed by the Danes who drove the last of the Mercian sovereigns from his throne. It remained a ruin until rebuilt in the time of the Conqueror by Henry de Ferrers as his permanent abode. Two centuries later the estates were confiscated by the Crown for the open rebellion of the then holder and were conveyed to Edmund, Earl of Lancaster and son of Henry III. At the present day it still belongs to the Duchy of Lancaster. After long neglect consequent on its troubled history the honour of Tutbury came by marriage to John of Gaunt, fourth son of Edward III., who restored the castle to its full strength, though to make it habitable he had to rebuild nearly the whole except the walls. The present gateway and the northern front of the apartments occupied afterwards as a presence chamber by Mary Queen of Scots are the only parts which now remain of the edifice erected by this Prince. The castle was occasionally visited by Henry VII. when hunting in the adjacent forest of Needwood. In 1569 Mary Queen of Scots was removed from Bolton Castle, in Yorkshire, to Tutbury, under custody of the Earl of Shrewsbury. The list of furniture sent for her rooms and of her wardrobe shows she was treated after a queenly fashion. However, she complained bitterly of the draughts and the cold as well as of the garden, which she described as being fitter for keeping pigs in. In 1585 the Queen took her final leave of Tutbury and was removed to Chartley. In the reign of Charles I. the town appears to have been under the power of the Parliament, although the castle was held for the king, and was one of the last places in the county to hold out for him. In 1647 it was ordered that the castle should remain but be rendered untenable. The neighbouring peasants were called in to help to demolish the great pile of buildings.

The enclosed area of Tutbury is roughly semi-circular. Along the chord runs the line of a precipitous natural slope; the remainder of the circuit is defended by a curtain wall with towers at intervals and a wide and deep ditch in front. The mount lies at the south-western angle, and the main entrance with great bastions (known as John of Gaunt's gate) is at the north-east. Outside the ditch there were other defences. The situation is a very striking one. What is still to be seen is mainly fifteenth century work. The south wall of the hall stands with inserted late seventeenth century windows.

Sir W. H. St. John Hope said the question of earthworks of the character of Tutbury had been a few years ago threshed out by himself in a paper he read before the Royal Archæological Institute at their summer meeting at Gloucester, and which was published in the *Archæological Journal*. The conclusions therein set forth had since been adopted in the main by the Victoria County Histories &c. In dealing with such a subject the best rule was to start from the known and try to work back to the unknown. One of the chief points about Tutbury Castle was the dominant mount in its south-western angle. His contention was that not a single instance could be adduced of one of these mounts of an earlier date than Norman times, *i.e.*, the reign of the Norman Kings. Not one could be proved to be Saxon; they were certainly not Danish nor British. In the Domesday Survey there were between fifty and sixty such castles mentioned directly or indirectly, and of these a very large number are described as *fecit*. Wherever you find one of these castles you find one of these mounts. Documentary evidence from other contemporary sources describes

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castle after castle as being so thrown up by the Conqueror (instances being York, Cambridge, and Stamford) and the mount made the dominant feature. One of the chief means by which the Conqueror subjugated Saxon England was to cause one of these castles to be thrown up by the noble to whom he assigned the district. The same idea was recently utilised by Kitchener in establishing blockhouses to dominate the Transvaal and keep it quiet. Many of these fortifications were of considerable size, being proportionate to the size and importance of the district they had to police. This fact accounts for the enormous size of places like Windsor, Arundel, and Tutbury. The whole of the latter enclosure is described in the Domesday Survey as the *castellum* of Henry de Ferrers. There was little or no Norman masonry in these castles, for the simple reason that a bank of loose earth thrown up from the ditch afforded no foundation for a solid erection before it had had time in which to consolidate itself. Instead of stone walls the Norman noble would place a strong palisade of split oak trees on the top of the earth bank, just as railway sleepers are now used. A formidable defence was thus provided, the storming party having to completely expose themselves long before gaining the top. The only masonry originally in these castles would be in connection with the gatehouse and, perhaps, the hall, chapel, and a few other buildings erected on the natural ground. Even in these buildings the material might be either wood or stone. Probably at Tutbury stone would be used. He did not know as to the date when the owners commenced at Tutbury to build up with masonry, and it was not a serious matter. A time came when the original purpose of the castle had begun to pass away. They, perforce, reduced its size. They tore down the palisading of the outer bailey, replaced the palisading of the inner bailey by a stone wall, and built a stone tower. From time to time also fashion and other needs brought about a reconstruction of the stone defences. The enclosed area had been entered by the party through a gatehouse of Henry II.'s time. There seemed no evidence that this fine-jointed and big-blocked masonry might not have been part of the reconstruction by John of Gaunt, who may have replaced many humbler towers by better ones or built entirely new work. The round tower now on the top of the mount was obviously a bogus one. In conclusion, Sir Wm. Hope remarked that so far from the earthwork being prehistoric, as popularly believed, there was no evidence proving that anything dated earlier than the latter half of the eleventh century. His contention was that previous to Henry de Ferrers' time *nothing* existed on the site.

A return was then made to Derby for lunch, after which the train was taken to Wingfield. A short drive brought the party to the entrance gatehouse of

WINGFIELD MANOR HOUSE.

Sir W. H. St. John Hope described Wingfield as practically unique among the great houses of the country. First of all, it was unlike the majority of the old ones in being set on a hill instead of in a valley where the question of water supply was simple. Secondly, Wingfield was of exceptional size; and, thirdly, it was practically the work of one master mind, being carried out as a consecutive work from end to end. Of all places in the Midland counties Wingfield was, he said, one of those most worth seeing. The house owes its existence to Ralph Lord Cromwell, the builder of Tattershall Castle, who commenced it in 1441 and carried up the greater part. He sold the reversion of this manor before his death, in 1455, to John Talbot, second Earl of Shrewsbury, who put the finishing touches to it. It continued in the hands of that great family till towards the close of the seventeenth century.

In 1569 and again in 1582 Mary Queen of Scots was imprisoned here in the custody of the sixth Earl of Shrewsbury. But, in spite of what is sometimes stated, it is not known what part of the building she occupied. She certainly did not bring about any difference in the plan. After certain vicissitudes Wingfield was bought in 1666 by Immanuel Halton, the mathematician (who made some injudicious alterations), and was inhabited by that family till 1774. The then owner pulled down part of it to provide dressed stone for his new house down the hill.

There were three incidents in its history to be considered. First were the sieges during the Civil War. It was fortified for the Parliament on the outbreak of the war. In December 1643 it was captured for the King after a twelve days' siege and strongly garrisoned. In the year following the Parliamentary troops regained possession. Two years later it was ordered to be "slighted" or dismantled.

The house consists of two large courtyards. The outer one is entered through a gatehouse in its south-east corner which has now lost its upper works and its two tall flanking towers. Adjoining this gate to the south was, and is, a large barn, the timber work of which is still almost perfect. On the east side were stables with accommodation for the grooms above; of this only the inner wall remains. The west side shows the outer face of a block of offices. The inner and more important court was separated from the other by a range of buildings with a "cat and kitten" gateway in the centre. Over this gateway is a large panel with shields of arms, of which little can be made; part of Cromwell's device is discernible. The gateway stands in the middle of what must have been on its south face a stern and windowless wall broken by some six great projecting square chimneys carried up from ground level as gables and a square shaft above set lozenge-wise and ending in an embattled top. At its west end came the tall tower. The east half of this fourth side has long been fitted up and used as a farmhouse—the only fragment still in occupation.

A visitor passing under the gateway and seeing the inner court for the first time cannot fail to be thrilled by its rich beauty, in ruins though it be. It had buildings on three sides only, the east side having been enclosed merely by a wall to give an impression of airiness and space. With regard to the disposition of the buildings, Sir W. H. St. John Hope said it might seem rather difficult in their present ruined state to determine exactly what they could all have been. The main range, on the north side, was of the normal type; there were, of course, differences such as might be expected in a house of this scale and in such an advanced period. Wingfield was built simply as a house, though a strong one, and was not a fortress. Certain things, however, were done in the castellated manner because people continued working on the old lines. In Sir William's opinion Wingfield was second in archæological importance only to Haddon and is certainly a most desirable object of study. The dominant feature of the main block is the hall at its east end, and most especially its beautiful oriel window at the dais. This hall was built open from roof to floor, but the Haltons divided it into two storeys and cut window openings in the walls below. All that remains is the outer walls. Part of the south side of the hall has tumbled down also, though enough is left to allow of an imaginative reconstruction of the whole great apartment. In the upper walling the original windows remain. The interior would be hung with arras or with wooden panelling. East of the hall projected buildings now entirely destroyed and of uncertain use. Probably they formed an important range and might have been taken down to render the house stronger and more compact at the Civil War. Beyond this apparently came the chapel approached from the house by a pentise. At the west end of the hall was the usual passage behind the screens, into which the porch opened, and which also had a door into the garden. The hall is divided from the buttery, pantry, and kitchen by an intermediate block, upon the upper floor of which stood the great chamber. This is of the same date as the hall; the kitchen buildings appear to have been erected separately. Owing to the fall in the site level the hall was built upon a wonderful and most elaborate vaulted cellar, which fortunately remains complete, with a row of five octagonal columns down the centre and a considerable amount of carving in the bosses and brackets of its six bays. This cellar was approached from above by no less than four doors and lent itself to the utmost expedition of serving men. This same provision for speedy attention to the gastronomic needs of the family and their guests is seen in the passage from the kitchens to the hall which was so arranged that a double set of serving men could work at once. The main kitchen has openings for four large fireplaces. Unlike the major part of the buildings, this had only one storey. The south and west ranges of the inner court are in ruins, little remaining but the outer walls and foundations; but, as already mentioned, the great tower of the south-west corner is still very perfect and is entered by a small door and passage. Much of the main block was occupied as late as the eighteenth century when the hall was divided into two floors, the upper having a number of separate rooms.

Before the party returned to Derby they took tea in the inner court by invitation of Major and Mrs. Tristram. Major Tristram read some interesting letters in the possession of his family written by Mary Queen of Scots and by her gaoler, the much-worried Earl of Shrewsbury. In one the unfortunate Queen complains of "the very unpleasant and fulsome savour in the next chamber hurtful to her health"—presumably referring to the odours from the

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kitchen. The Earl retorted that the trouble was caused by the "continual festering and uncleanly order of her own folke."

Thursday, July 16.

All the excursions on this day were made by the aid of motors. The first place at which a halt was called was

SAWLEY CHURCH.

Here an avenue of plane trees makes a splendid approach from the road to the north porch, and the tapering lines of the trunks seem to specially harmonise with the curious straight lines of the forked tracery of the adjacent windows. Within there are many interesting points, especially those connected with the earliest work, which include the plain circular chancel arch and part of the chancel walls containing some herring-bone masonry. From this latter fact it has been frequently claimed that the work must belong to the Saxon period. The breadth of the arch span is alone sufficient contradiction of any claim earlier than the Conquest. Moreover, it is of a regular post-Conquest type with a filling of rubble faced with brick. Mr. A. Hamilton Thompson, M.A., F.S.A., in describing the church, pointed out also that herring-boning is found in its largest quantities in the walls of early Norman castles like Lincoln, Richmond, and Tamworth. Indeed, its presence can never be safely accepted as any criterion of Saxon work. The chancel arch with its walling he judged to belong to the second part of the eleventh century, though it was also quite possible the arch may have been put up at a still later time. The church of Sawley belonged from a very early date to Lichfield; the bishop was lord of the manor and the church became a prebend of the cathedral, with the treasurers as prebendaries. Here the vicar seems to have been exonerated from all care as to the repair of the chancel—that work being undertaken by the prebendary.

The nave and aisles and chancel are of the thirteenth century, but considerable alterations and additions were made about the beginning of the fourteenth, the chancel being first enlarged. A little before that was done Ralph Chadston, one of the prebendaries, founded a chantry of Our Lady in the north aisle and his effigy may be one of the two in the aisle. The south aisle was very much lower than at present and it had a lean-to roof; curiously its doorway was higher than the original aisle wall and may have its own roof to the wall. The north aisle was loftier and may have had a high-pitched roof instead of the present flat one. The tower and spire are of the fifteenth century. The last of the alterations were made at the east end of the chancel when a low stone screen was erected across it so as to provide a vestry behind.

There is an effigy in an external recess in the south wall of the chancel which is sometimes considered to be that of Cardinal de Gaucelin. This was described by Mr. Thompson as quite unlikely, for that prelate, though a prebendary here, must have had many other churches in England and abroad from which to make a choice of burial place.

One of the most delightful features of Sawley Church is the rectangular bay projecting from the south-west corner of the chancel to contain the monument of John Bothe, Treasurer of Lichfield and Archdeacon of Durham, who died in 1496. There are two other Bothe tombs in the church, namely of the Treasurer's father and brother. The family came and settled at Sawley earlier in the century. Roger Bothe obtained a lease of the estate, and his son John and his grandson Charles, afterwards Bishop of Hereford, were successive holders of the prebend.

The original fittings of the chancel have been preserved. These, comprising return stalls with the rood screen behind them, stand complete within the chancel. The screen is coarse. Less so is the lower part of the two parclose screens which are in the aisles.

A twenty minutes' drive brought the cars to

LITTLE WILNE CHURCH.

The nave and lower stage of the tower here is thirteenth century. At the end of that century a south aisle was erected; a little later the chancel was rebuilt and the clerestory added. The charming south porch is unusual in having a stone roof after the manner of Horsham slates. In 1622 the south aisle was prolonged eastwards to form a memorial chapel for Sir John Willoughby, whose monument and effigy, with that of his wife, were erected by their son in that year. This chapel is of great architectural interest for many reasons. Its windows, filled with contemporary Flemish glass, are a very curious imitation of the fourteenth and sixteenth century tracery. Yet the heavy and elaborate wooden screen with gates through which it is entered is in the very best taste of the time (1624). Mr. Aymer Vallance has described it as a striking example of the depraved spirit of the age inasmuch as the carving mingles representations of Hercules, centaurs, cannons, drums, and Roman lictors. Be that as it may, it illustrates, as Sir William Hope pointed out, how the wood carver was going forward while the stone worker was content to imitate. It is noteworthy that the Willoughby pew was and is outside, not inside, this screen, thereby allowing its occupants to see the preacher and "hear the word." The chapel floor is completely laid with beautifully coloured Spanish tiles. Another fitting in this chapel is an uncommonly fine church chest with rather elaborate carving of the late fourteenth century. The ceiling is of plaster with heavy moulded ribs.

Mr. Maurice Drake pointed out that the windows in the Willoughby chapel, though decadent, yet marked a period when decadence was held back by the influence of the Flemings settled at Oxford—the Van Linges, whose remarkable ability to make use of the enamels which came into fashion in the seventeenth century for a while made it seem possible that these enamels could effectively take the place of honest pot-colour—a fallacy which only the two intervening centuries could effectively explode

Willoughby tombs are numerous. In the chancel are incised alabaster slabs of Hugh Willoughby of Risley (1491) and Isabel his wife (1462). These alabaster slabs from the Chellaston quarries should be much more common in Derbyshire than they are now. It is hinted that architects adopted them as useful material for reredoses, while in Chellaston itself a lot had been removed to serve as paving for a dairy. The incised outline was emphasised by filling with pitch, with the result that they have suffered from washing and rubbing. There is a mural brass to Hugh Willoughby (1514) and Anne his wife.

The unique feature of this church is the font, about which there has been no little controversy. Many people wanted to make out both that it was of Saxon date and that the carving round its drum was a Runic inscription. But Sir William Hope said that some years ago he inspected it in company with Bishop Browne of Bristol to test the latter's theory of the font being really a piece of a great standing shaft with broad bands of sculpture carrying a cross. Part of this shaft had been turned upside down and hollowed out to serve as a font. The so-called Runic inscription was, according to Bishop Browne, the feet and legs of men, also upside down, which, in the same way as the cross of St. Peter's, Wolverhampton, had formed part of the circular ornament. Sir William Hope had no doubt at all that this theory was the correct explanation. Where such a cross stood in pre-Norman times is not known, but it certainly pointed to an early Christian settlement.

The rood screen occupying the chancel arch is of simple Perpendicular workmanship.

After a drive of thirty minutes a halt was made at

CHADDESDEN CHURCH.

There is not, Mr. Thompson pointed out, very much to be said concerning the architecture of this church because it was practically rebuilt at one period in the middle of the fourteenth century, very soon after which date a chantry of three priests was founded here at the altar of Our Lady. The man in all probability responsible for the rebuilding was a certain Master Henry Chaddesden, Archdeacon of Leicester, who was a well-known King's Clerk, held many important benefices in different parts of England, and was a well-to-do man. One of the objects of his life seems to have been to found a small chantry college in this, his native, village. Chaddesden was in those days simply a chapelry of Spondon. During the fifteenth century the aisles were lengthened and the western tower engaged with them—the latter being a type of plan very common in the Midlands and to be met with as early as the twelfth century.

One of the several things to be pointed out for notice is that both the chancel and the aisles have their original single sedile and piscina. A very interesting and rare feature in the chancel, though a not uncommon one in Derbyshire churches, is the stone gospel-desk in the north wall of the chancel. Below it is a stone cupboard, and this was probably used as an Easter sepulchre. The big font in the north aisle dates from the late fourteenth century. There is an elaborate early fifteenth century rood screen and return stalls, with much carving of animals, humans, and foliage, which has been in places most carefully restored at a recent date. The treatment of the outer ends of the return stalls flanking the passage through the rood screen into the chancel is remark-

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able in the great size of the crockets climbing up to the entrance jambs. Here, as almost everywhere throughout the county, the original groined vaulting has been lost, what is now to be seen on the top being part of the restoration by Mr. Bodley. The rood loft entrance door is only 18 inches wide.

After returning for lunch to Derby the party resumed their journey to

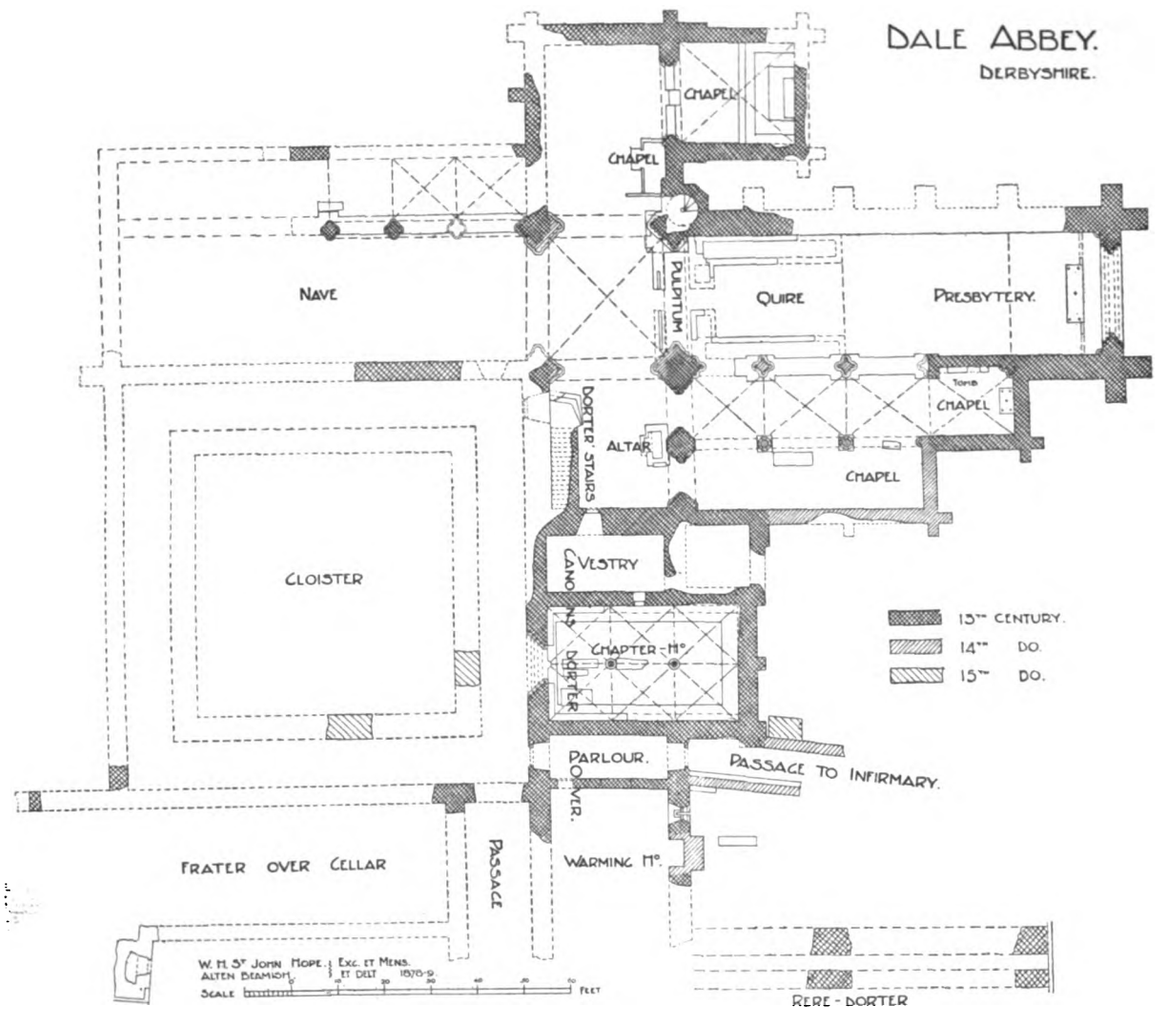
DALE ABBEY.

First an ascent was made up the hillside to the cave of the hermit to whom the Abbey is said to have owed its origin. The following is a translation by Sir W. H. St. John Hope of the narrative concerning the pious townsman of Derby, "not a tale, but a circumstance which most certainly happened," as recorded by Thomas de Musca, Canon of Dale Abbey:—The baker was a God-fearing man, intent on good works, being in a measure another Cornelius. Whatever food and clothing he could procure during the week beyond what was needful for his family he would bring on Saturday to St. Mary's Church for distribution amongst the poor. At length, yielding to a call which seemed unmistakable, he exchanged social life for solitude, commerce for contemplation, prosperity for privation. It happened that one certain day in autumn when he had given himself up to repose at noon there appeared to him in his dreams the Blessed Virgin Mary saying, "Thy alms are acceptable before my Son and me. But now if thou wilt be perfect leave all that thou hast and go to Depedale and there thou shalt serve my Son and me in solitude." Awaking he straightway left all that he possessed. Ignorant of the place for which he was bound, he turned eastwards, and in passing through a village heard a woman bidding a maiden drive the cattle into Depedale. He followed forthwith. He found that the place was a marsh, exceeding dreadful, and far distant from every habitation of man. And turning himself to the south-east of the place under the side of the mountain he cut out for himself in the rock a very small dwelling and an altar turned to the south which has been preserved to this day, and there by day and night he served God in hunger and thirst, and cold and nakedness. Now Ralph FitzGeremund was hunting one day in his woods of Ockbrook. He caught sight of smoke ascending from the cave and was indignant that anyone had dared to make himself a habitation. But seeing the miserable case of the man of God who was clad in rags and skins the baron was smitten to the heart and granted him the place, giving him also for his support the tithe of the mill of Burgh. Lacking water, the hermit wandered about near his abode until he found a spring, beside which he made a hut and built an oratory in honour of God and the Blessed Virgin. In almost unendurable solitude the hermit of Dale steadfastly carried out his resolve, until at length having finished the struggle of his life laudably in the service of God he passed happily away from the prison of his body to the Lord.

From time to time long after the hermit people have lived in this well-sheltered cave. When some years ago Sir William Hope was excavating on the ruins of the Abbey close by one of the labourers claimed to have been born in it.

Between the cave and the Abbey is the delightfully quaint parish church. At first sight this looks like nothing more than a farmhouse with one of the back rooms converted into a church. No doubt it has been in continuous use as a chapelry. This limited space is divided into a chancel, nave, and south aisle, the latter separated from the nave by a wooden partition. The oak screen on a stone base which divides the nave from the chancel is very quaint and without tracery. Mr. Aymer Vallance, F.S.A., puts the mouldings at late sixteenth or early seventeenth-century work. The church has a gallery over the greater part of it which is solely reached by an external staircase. Carving on the font shows the Virgin and Child.

Of the Abbey itself practically nothing remains above ground level except the east wall of the chancel. As Sir W. H. St. John Hope remarked, it is one of the many instances which show the difficulties besetting the establishment of a monastery in an outlying place. The first builders were some Austin canons who came from Calke in 1159. Here, according to the old Chronicle, they lived for a time "apart from the social intercourse of men; but they began too remissly to hold themselves in the service of God; they began to frequent the forest more than the church, more to



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hunting than to prayer or meditation, so the king ordered them to return whence they came." They were followed by six white canons who, after seven years of dire poverty, were recalled. Then came canons from the Premonstratensian house of Tupholme in Lincolnshire, and then from Welbeck, both having to give it up owing to poverty. The last attempt was made about 1200 when some nine canons from Newhouse in Lincolnshire succeeded in establishing themselves. The story of the Abbey is extremely fragmentary.

Excavations carried out in 1878-9 by Sir W. H. St. John Hope on behalf of the Derbyshire Archæological Society revealed the plan of the church, which consisted of a quire and presbytery of five bays with two aisles to the south, north transept with a Lady chapel to the east, and a south transept with a tower over the crossing and nave with north aisle. The cloister was also partly excavated and had to the south the frater with its subvault, and to the east the vestry, chapter-house, and dorter subvault. In the chapter-house many things of the greatest importance were discovered. These included the base of the stone wall bench upon which the monks sat when discussing business, of the double door with its central shaft, and of the two central pillars to carry the vaulting. On the floor were a number of monuments. One was an effigy in high relief of an archdeacon habited in just the same way as the figure in the south transept of Lichfield Cathedral. Another figure was that of an early abbot with an unusually short crozier; a third was important as showing that shears or scissors on a tombstone are meant to suggest a woman. One of the features of the excavation was the extraordinary number of paving tiles. These were probably made in a kiln hard by. The patterns were extremely diverse and over sixty were heraldic.

Sir William Hope said that when he commenced excavating there an old woman told him he must not take down the arch or she would have to pay tithe, and he had found the superstition existed in other places that people were tithe free so long as a piece of an abbey was standing.

The next place on the programme was

Morley Church.

The twelfth century nave of this church is of two bays with round arches. In the fourteenth century the chancel was rebuilt, probably replacing a Norman apse, and the aisles of the nave were apparently rebuilt at the same time. The north chapel was originally built by Ralph Stathum, Lord of Morley, who died in 1380, and much reconstruction was done by his widow Godith (d. 1418) and their son Richard, including the erection of the steeple. These facts are set forth upon their brasses in the north chapel, which also contains two later Stathum brasses, a table tomb with brasses of Sir Thomas Stathum and wife, and a brass of John Sacheverell (d. at Bosworth 1485, who obtained the lordship of Morley by his marriage with Joan Stathum), as well as several incised slabs of Sacheverells. Between the chapel and the chancel is the table tomb with brasses of Sir Henry Sacheverell (died 1558) and his wife. The south chapel was probably built by the Henry Stathum who died in 1481, who is buried there.

Lovers of painted glass may find here so much to study that they can afford to pay little heed to anything outside the windows of the north aisle and chapel. The four large windows in the north wall with their tracery are believed to have formed part of the late fifteenth century cloister of Dale Abbey with which they agree in measurement. It is said that the windows were purchased in 1539 on the Suppression, and that the aisle was broadened for their better reception. The glass in the easternmost of these represents the story of the finding of the Holy Cross by St. Helena and is in several scenes almost perfect. The next window dealing with the trials and victory of St. Robert of Knaresborough, the popular hermit, is not so complete. Modern glass has been inserted in the other two adapted windows. In the east window of this north chapel are old figures of Our Lady and Child, St. Ursula, and St. Mary Magdalene. There is also much fifteenth century figure-glass in the south chapel.

Mr. Maurice Drake pointed out that the arrangement and details of the Dale Abbey windows strongly resembled the work of the Troyes School, and remarked upon the similarity of windows in the Yorkshire district to those of Champagne. The other windows in the church were, he said, typical of their period, but that the fifteenth-century improvements in technique, while enabling the glass-painter to achieve better effects in his subject compositions, also induced a certain slovenliness in such accessory details as the canopy and border.

The church has a wonderful setting in its churchyard which, with its pergola, arches of roses and perfect upkeep, presents a most charming picture.

Tea was given by the Rector in a large barn close to his house.

The final visit of the day was of melancholy interest, for it was to the fire-swept shell of

Breadsall Church.

The original church, as shown by the walling of the nave, was built about the middle of the twelfth century. Various alterations and additions were made during the subsequent 300 years. How far the damage is irreparable we do not know, not having seen Mr. W. D. Caroe's report. Under his direction the beautiful western tower and spire is now in process of being shored up by Messrs. Cornish & Gaymer, Ltd., of North Walsham. Much interesting furniture has been lost for ever. But the alabaster figure of Our Lady of Pity discovered under the flooring in 1877 was fortunately but slightly damaged. The sixteenth century rood screen, now destroyed, was re-assembled some seven years ago with considerable skill. The masonry both in walls and mullions looks to have been flayed. It would be curious to know how much of this is due to the effect of the fire brigade hose on the heated surfaces, and also to the fact that the plaster coat was removed from the walls in an extensive restoration about thirty years ago.

In the evening a paper was read on the excavations at Margidunum on the Fosse Way, near East Bridgford, by Felix Oswald, D.Sc., and T. Davies Pryce, M.R.C.S., with lantern illustrations and some examples of the pottery discovered.

(To be continued.)

UNIVERSITY OF LONDON CHAIR OF TOWN PLANNING.

Professor S. D. Adshead, honorary M.A. (Liverpool), F.R.I.B.A., has been appointed as from September 1, 1914, to the University part-time Chair of Town Planning, tenable at University College. Since 1909 Mr. Adshead has been Professor of Town Planning at Liverpool. He was the author, in 1910, of the scheme for the reconstruction of the Duchy of Cornwall estates in South London, and has been concerned with town-planning operations at Birkenhead, Wolverhampton, and other towns.

The Chair of Town Planning is associated with the University Department of Architecture, of which Professor F. M. Simpson is director; and the engineering aspects of town planning will be dealt with by the recently appointed Chadwick Professor of Municipal Engineering, Mr. E. R. Matthews, A.M.Inst.C.E.

It will be remembered that new and convenient buildings have recently been provided for the Department on the north-west front of University College.

THE ORIGIN OF LION BASES.

By J. Tavenor Perry.

One of the most striking features in the mediæval architecture of Italy is the base formed of a lion or other animal given, at first, to the pillars or portals and, later on, extended to the supports of ambones, fonts, and candlesticks. It did not result from evolution out of any style preceding that on which the architecture of the period was based; and its appearance was sudden and at first sight unaccountable, but it can be fixed within very narrow limits of time. It is entirely absent from the Greek and Roman buildings, the ruins of which lie thickly scattered over the Peninsula and Sicily, and it cannot be traced in any of the phases of Byzantine or Lombardic work of previous times; moreover, the same idea, treated with marked differences, made its appearance almost simultaneously in other and widely separated localities evidently not suggested by the first efforts of the Italian architects.

Whatever may be said for the beauty or symbolism of the idea, as an architectural feature it was scarcely happy; and, as expressed by its earliest exponents, it was contrary to all the rules of nature or of art. In North Italy, at least, the lions or other beasts selected for the purpose were generally posed in a couchant attitude, a position which rendered them least able to sustain the great weight that was apparently laid upon them, and must inevitably have

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crushed them; while in other cases, generally at a later date, the lion was placed in a sejant position, so that the load appeared to be slipping off its back (fig. 1). Occasionally, however, but more generally in later work and

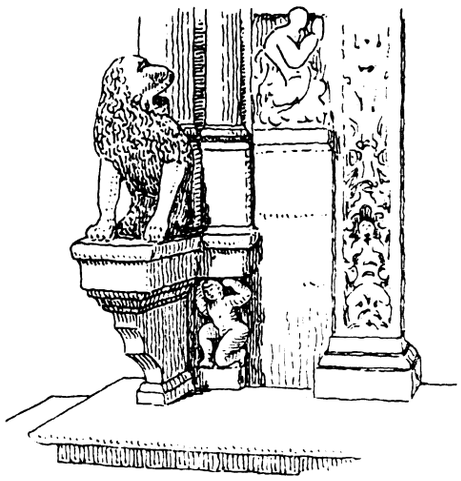


FIG. 1.—THE DUOMO, ALTAMURA.

to the columns of ambones, it appears a lion statant, on all fours, and evidently capable of bearing its burden. All this goes to show that the idea in most instances reached the sculptors without any models, and they are left to work it out as best they could from merely verbal descriptions.

The exotic character and the sporadic appearance of the idea, added to the unscientific manner and crude form of its first application, compel us to look for a foreign source whence its inspiration was derived. But Rivoira, who grants that by some possibility, which he does not attempt to elucidate, it may owe its origin to the East, claims that some lions placed at the entrance to an Etruscan tomb gave the first suggestion, and that a lion found among the remains of a portal erected in 1032 to St. Flaviano, Montefiascone, was the first manifestation of its adoption; and that on this lion of Montefiascone, although there is no evidence of it having served any other purpose than mere ornamentation, was founded the whole series of lions, griffons, chimeras, and even telamons, which became so marked a characteristic of Italian architecture.

Although the feature is too well known to all travellers, as well as architects and archæologists, to require any detailed description, some reference to its chief peculiarities is necessary before embarking on the quest for its origin. From the first the lion seems to have been the chosen beast for the pillar bases, but other animals and chimeras were freely used, such as elephants, griffons, and sphinxes, while many, particularly in Northern Europe, defy classification, and are simply grotesques. Generally in the Lombard cities of North Italy, and occasionally elsewhere, were found allied to these animals telamons standing or crouching on their backs, and receiving the first weight of the columns; while between the paws of the beasts were placed other animals or human beings, which they are mauling as prey or perhaps protecting. Another distinction dividing the examples of North and South Italy, which is very marked and not easily accounted for, is that those of the South are generally placed on brackets or corbels clear of the ground, as at Bari, Bitonto, Altamura, and Matera; while those of the North stand on pedestals or directly on the ground, as at Verona, Ferrara, Modena, and Borgo San Donnino.

In spite of these considerable differences in detail, this singular feature seems to have made its appearance almost simultaneously in South and North Italy and Provence during the former half of the twelfth century, and synchronised with the period which followed the return of the first Crusaders from Syria and the Holy Land. It is possible, however, that it was known in Apulia slightly before that date, as it is evident from the adventures of the sailors of Bari who carried off the body of St. Nicholas from Myra, that others also visiting the ports of Lycia and Cilicia may have been struck by the same monuments as those from which the followers of Bohemond later on drew their inspiration, and they may have introduced the feature into South Italy before the close of the eleventh century. There was but one country whence the idea could have been derived; not from Nineveh, where the bull-guarded portals of the Assyrian palaces had been buried for hundreds of years before Baldwin of Flanders in 1097 founded the Christian kingdom of Edessa; nor from Egypt, where the sphinxes in front of the entrances to the temples were never attached to the pylons or great doorways; but from remains, at that time standing above ground and to some extent fairly complete, of the lion-supported portals of the Hittite palaces of Syria and Asia Minor.

How it was the Crusaders were brought into touch with these relics of antiquity, and who the Crusaders were who were influenced by them, must be made clear. The two great streams of heterogeneous volunteers who might be expected to include the largest artistic element, and therefore most likely to receive and retain artistic impressions, were those led by Bohemond from Italy by sea to Durazzo, and those led by Count Raymond of St. Gilles, embracing those of Provence and South France, by way of Lombardy, round the head of the Adriatic, through Dalmatia to Constantinople. From thence they marched and fought their way for five hundred miles by Antioch of Pisidia and the Cicilian Gates to the siege of Antioch in Syria, traversing, the whole way, the ancient land of the Hittites, passing through their cities, which had then not been wholly buried, and some of which were still inhabited. When they sat down to this memorable siege they were surrounded not only by the remains of Hittite architecture, but by the ruins of Christian churches and towns thriving and important until the Moslem conquest of the country three hundred years before. The manner in which these Christian monuments influenced the contemporary architecture of South France is well known to all archæologists, and is sufficient evidence of the observant character of many of the early Crusaders; but hitherto, and for good reason, the same circumstances have not been credited with affording a clue to the discovery of the origin of the lion base.

The failure of modern archæologists in this respect is similar to that of the early leaders of the Gothic revival, who in the same way groped in the dark for the origin of the remarkable peculiarities of many of the buildings of Provence, Périgueux, and similar places before the rediscovery of the early Christian buildings of Syria and the

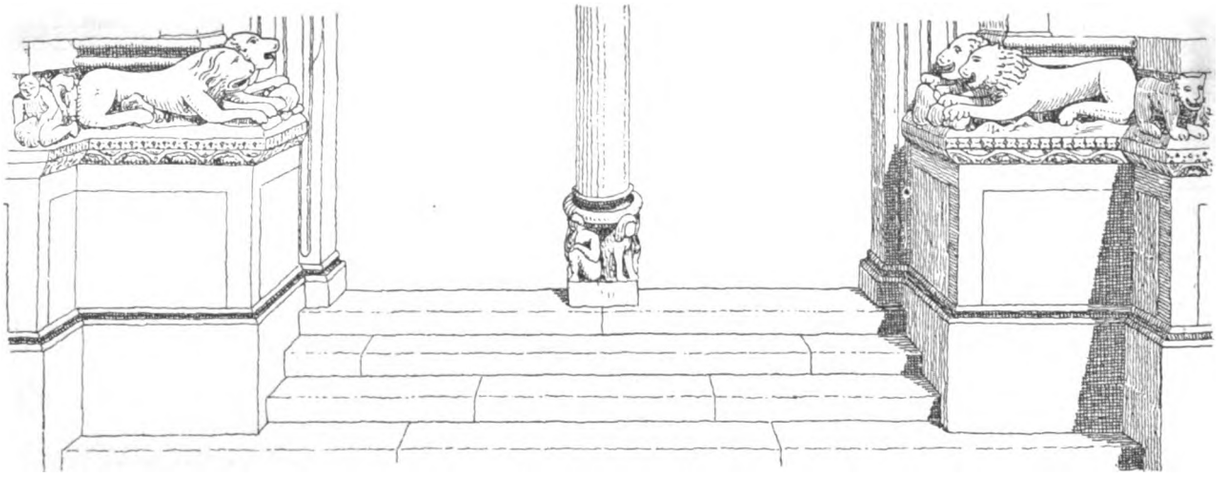


FIG. 2.—ST. TROPHIME, ARLES, PROVENCE.

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Hauran, as displayed on the pages of such authors as Count Melchior de Vogué. But the labours of English and German explorers among the ruins of Hittite cities, particularly at Marash, Sindjerli and Sakje-Geuzi, and, later still, on the site of Carchemish, have disclosed decorative features of ancient buildings which, seen by the Crusaders, showed them in actual use these lion-based pillars and door-posts.

These places are all to the north or north-east of Antioch, and were included in the kingdom founded by Bohemond in 1098, and they continued in the hands of the Christians

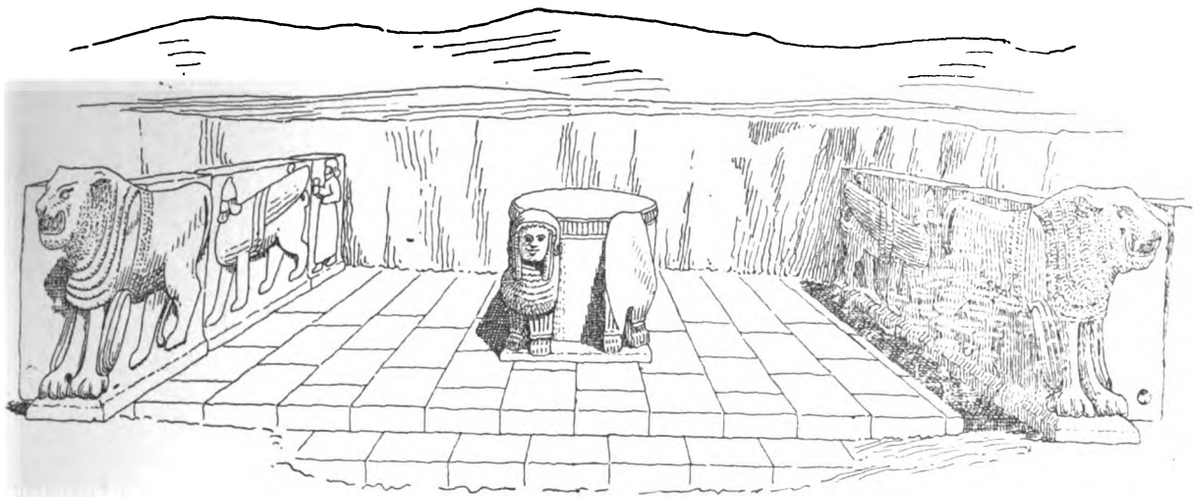


FIG. 3.—PORTAL OF A HITTITE PALACE, SAKJE-GEUZI, SYRIA.

for nearly two hundred years; and Marash was an important place with them, as the first Crusaders in their march from the Cicilian gates converged on this town before turning south towards the Holy Land, and nearly all that reached that goal passed through it. It is, therefore, of interest to discover what they saw there sufficiently obvious to attract their attention.

Marash seems to have had a continuous existence of at least two thousand years at the time of the Crusaders' visit, and it is impossible now to say what remains of antiquity have perished since then in the devastation of nearly another thousand years; but one remarkable feature remains to this day in a pair of basalt lions which had once guarded a portal, but are now raised aloft as ornaments in the Byzantine masonry of the Acropolis, in which position they must have been seen by the hosts of Bohemond as they passed by. But the remains to be found on the road further south towards Antioch were both more extensive and in a better state of preservation. It is to be borne in mind that even to-day the ruins of Sindjerli and Sakje-Geuzi lie but a very few feet below the soil, and the recent explorers had to do little more than scrape away the earth and rubbish which had accumulated over them during the last few hundred years, but had left their contour clearly discernible. Among these were found the remarkable lion-guarded portals which appear to form so marked a feature of Hittite palaces. They seem to have consisted of two pylons or towers, similar in arrangement to those found in front of Egyptian temples, having the lower parts revetted with sculptured slabs in high relief, the internal angles being much thicker blocks to carry the weight of the superstructure at the angle, carved as lions having their forequarters in the round projecting from the face of the wall and forming corner stones. The face of the entrance was recessed back for the full depth of the angle slab, and the width divided into two by a central pier, so that, unlike the great Egyptian doorways, it formed a double entry.

Such was the doorway the lower part of which was found *in situ* and recently excavated at Sakje-Geuzi by Professor Garstang, all the reliefs on the internal and front faces of the towers being in position, and the corner stones carved with lions of colossal size still perfect, while the great doorway, some twenty-four feet wide, had in the centre the base of a circular shaft formed of two sphinxes, one of which was broken, having the eyes hollowed out to receive precious stones; and a similar base, quite perfect, was found at Sindjerli, now in the Imperial Museum, Constantinople, and is figured in Rivoira without any comment.

It is impossible to avoid seeing in these works the prototypes of the porches of St. Gilles and St. Trophime at Arles in Provence, begun early in the twelfth century by Count Jourdain, so-called from his baptism in the River Jordan, the son or grandson of Count Raymond, the Crusader; and the comparative sketches we give (figs. 2 and 3) of Sakje-Geuzi and St. Trophime will make this abundantly clear. It is not without interest or altogether irrevelant to our subject to mention here another peculiarity which may have been derived from the East, together with the lions, and that was the custom of administering justice in these portals, which became common, as in England in the Galilees, and at Arles, where many of the charters granted by the Abbots of St. Trophime begin "*Domino NN. sedente inter leones.*"

These French examples, although perhaps the most complete imitations of the Hittite portals, may not contain the earliest examples of the adaptation of the lion base, which must be looked for in South Italy, and perhaps made its first appearance at Bari and Bitonto quite at the beginning



FIG. 4.—THE DUOMO, FERRARA.—WESTERN PORTAL.

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of the century, and be due to the roaming visits of pilgrims or merchants to Syria and Asia Minor, to which we have already referred; and such may be the griffons placed before the bases of the portal columns of Robert Guiscard's cathedral at Salerno. In Northern Italy, however, the earliest seem to be the two groups assumed to be the work of sculptors known respectively as Nicholas and William. The name of the former appears over the portals both of the Duomo of Ferrara (figs. 4 and 5) and of San Zenone, Verona, sculptured in 1135 and 1138, in the line

Artificem gnarum qui sculpserit haec Nicolaum,

while to the latter are attributed, at a slightly subsequent date, those of Modena (fig. 6), Parma, Piacenza, and Trent.

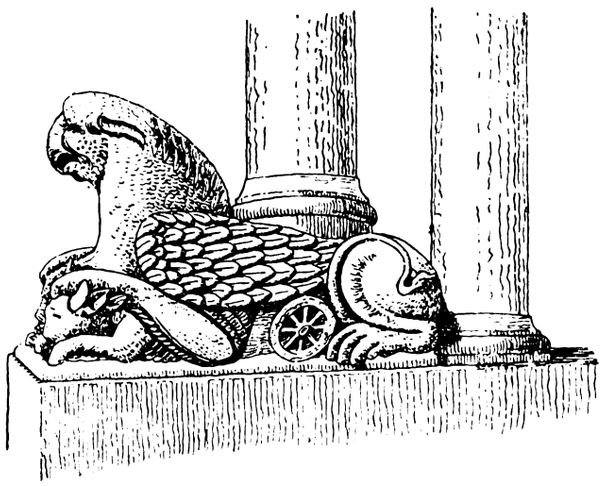


FIG. 5.—THE DUOMO, FERRARA.—PORTAL OF THE MONTHS.

But none of these owe anything to Hittite inspiration beyond the general idea of using an animal form for a pillar base, as they are not only rudely carved, but, though sometimes lion-like, are generally of nondescript form, and the telamon frequently forms part of the composition. In the bas-reliefs of Malatia, a little to the north of Edessa, may



FIG. 6.—THE DUOMO, MODENA.

be found figures standing on the backs of animals, and similar ones may have occurred elsewhere to have suggested the idea, otherwise it is difficult to account for the prevalence of this somewhat meaningless feature in North Italy. It, however, survived in later phases of Gothic art, for we find it in the Porta del Cocomero of the Duomo at Florence, where the rude telamons of an earlier date are superseded by graceful *amorini*, who affect to assist the lions in bearing the weight (fig. 7).

It was doubtless from these curious specimens of Northern Italy that the idea spread northward through Germany, and produced the remarkable grotesques to be found in St. Patroclus, Soest (fig. 8), and the Baptistery of Dalby Abbey, South Sweden (fig. 9); while to Provence must be due the examples of Embrun, Limoges, and Le Mans, with others to be found scattered about France. The lion base continued in use in Italy well into the Renaissance



FIG. 7.—THE DUOMO, FLORENCE.—PORTA-DEL-COCOMERO.

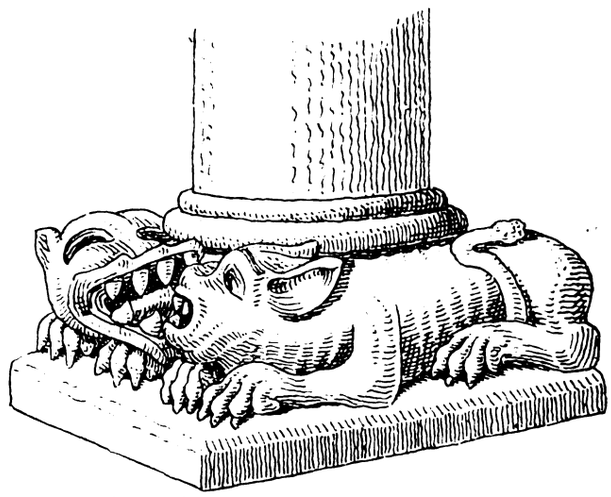


FIG. 8.—ST. PATROCLUS, SOEST, WESTPHALIA.

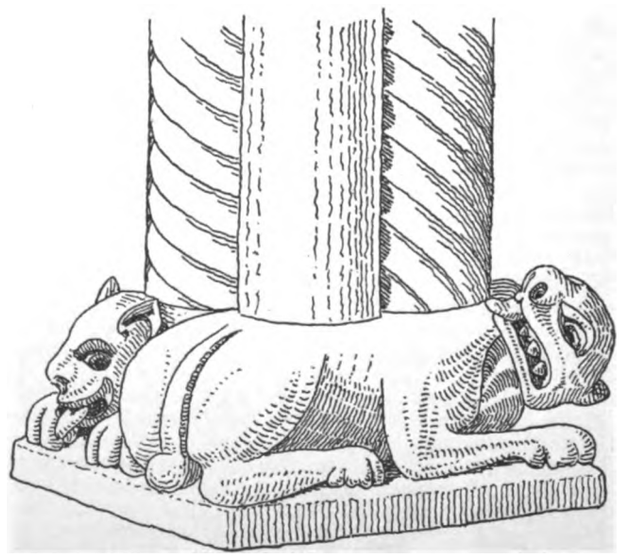


FIG. 9.—DALBY ABBEY, LUND, SWEDEN.

period, and its disuse cannot be fixed so definitely as its beginning; but, wherever it is found, its use and origin can always be traced back to the lion portals of the Hittite cities.

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THE ARCHITECTURAL ASSOCIATION ANNUAL PRIZE-GIVING.

WE referred recently * to the excellent pioneer work effected by the Architectural Association in regard to systematised education, and now we have had the opportunity of observing the latest stages in the development of this sturdy school of architecture. Our memory does not carry back, it is true, to the inception of the Association seventy-three years ago, but sweeping aside the mists of our own past we can note the advances made in the scheme of study of an Art where pedagogy is as little desirable as the excessive freedom of seventy years (and fewer) ago. And even whilst we recognise the vastly improved condition, it would be wrong to overlook the good students' work often effected in those early days, testimony to which is eloquently borne by drawings suspended on the walls at 18 Tufton Street.

On the same walls are to be seen just now the work of present-day students, and whilst much of it is good and some even better and very good, there is, too, some that is distinctly indifferent and even poor. The influence of French methods of study is becoming increasingly apparent nowadays, and we will hope that this will not be allowed to assert itself unduly. That architectural students should be taught to think and scheme on a large scale has a very good side to it, but at the same time this must not be to the detriment of everyday practical requirements of unambitious schemes.

The visit just now to England of Mr. Herbert Baker, F.R.I.B.A., was seized upon by the Council of the Association to obtain his presence on Friday, July 17, at the annual function of announcing the school awards; indeed, precedent was set aside this year in combining the announcement and distribution, an innovation which seemed to meet with the heartiest approval. Mr. Maurice Webb, the President, took the chair and opened the proceedings by a reference to the sad (and indeed tragic) death of Mr. F. Dare Clapham, which had occurred the same day. After a few feeling words in reference to this popular past Vice-President Mr. Webb continued:

One of the first and most pleasant duties of the President is to take the chair at this function. An alteration is to be noted respecting the school, that this has been the first year in which Mr. Robert Atkinson has had complete control; he and his staff are to be congratulated upon the result, all the school prizes having been closely contested. There are now sixty-three students on the Day School roll and some thirty of an evening. It is in touch with all the public schools through the energy of the Registrar. The Evening School is about to be reorganised and will be under Mr. Atkinson's charge.

The awards were then announced and the prizes distributed, after which Mr. Herbert Baker said:

It is now nearly twenty-five years since I became a member of the Association, and I am very pleased to be here and to congratulate the President and the masters upon the progress made. I wish I had been brought up in such a school. As one that may be called an outsider, I may perhaps see most of the game when working in a raw country like South Africa and under raw conditions. In a clime which is treeless for hundreds of miles one is made to realise more easily the effects of climate, light, and heat upon architecture. As I think, Gothic architecture was evolved in the struggle for light and heat. The effect of new conditions is to lead to greater freedom, though a "classic" education is all important. I see that the basis here is mainly on classic lines, and there is perhaps a danger of going too far in this direction; a happy medium is desirable. Good architecture was evolved out of practical considerations; it should have a sentiment to inspire it, but it was not based on symbolism and sentiment. We have much to learn from other countries, but should not lose sight of the English characteristics of quiet restraint and simplicity. There must be many thousands of facets in the crystal of architecture, but the light shed by the facet of an English gentleman in his relation to and conception of this art is one of the most valuable.

Mr. Curtis Green proposed a vote of thanks to Mr. Baker for his welcome address, and this was heartily acclaimed. The proceedings then terminated.

Appended is a list of the prize-winners:

COUNCIL'S AWARDS.

Lectures.—Greek and Roman architecture, book prize, D. S. Glover; elementary physics, book prize, D. S. Glover; elementary construction, book prize, D. S. Glover; Renaissance architecture, book prize, S. F. Irwin; materials, book prize, M. D. N. Koch; intermediate and advanced construction, book prize, A. B. Hamilton; hygiene, book prize, James Burford; timber and steel construction, book prize, R. A. Duncan.

EVENING SCHOOL.

First Year.—Book prize, R. Brundle.

Second Year.—"Andrew Oliver Prize," value £5 5*s.*, E. A. D. Tanner.

Third Year.—Book prize, R. Braine.

Fourth Year.—1st prize, free pass to new School of Design for one year, J. B. M. Walch; 2nd prize, value £3 3*s.*, R. H. Maddock.

DAY SCHOOL.

First Year.—Studio prize for best work done throughout the year, value £2 10*s.*, O. Campbell Jones; history examination, book prize, P. M. Hill; construction examination, book prize, W. Steer; freehand studies, book prize, A. G. Brian; general progress, book prize, A. S. Whitburn.

Second Year.—The Association two-year course certificate has been awarded to the following students: C. J. Brandon, G. G. Clark, N. F. C. Day, F. A. Eschawzier, J. H. Hopewell, W. H. Lloyd, J. L. Murgatroyd, F. Reixa, H. Schein, G. B. Tubbs, F. R. M. Woodhouse, and R. C. Blampied.

End of Session test, value £4, G. G. Clark.

Freehand studies, book prize, G. G. Clark.

Travelling studentship, value £20, F. P. M. Woodhouse.

Second prize, studentship competition, value £5 (for best work done throughout the year), F. A. Eschawzier.

"Howard Colls" travelling studentship, specially awarded in second year by the Council, value £15 15*s.*, W. C. von Berg.

Third Year.—Book prizes for best work done in the studio during the year: 1, W. T. Ching; 2, D. C. L. Derry; 3, H. F. Gossling.

The Jarvis scholarship, value £40, awarded for best constructional sheet prepared in connection with a design subject, A. B. Hamilton.

The Day School travelling studentship, value £50, for best work done throughout the year, A. Stanhope Forbes.

Second prize, studentship competition, value £10, divided between James Burford and J. H. Jacob.

A.A. travelling studentship, value 25 guineas, specially awarded in third year, R. A. Duncan.

OTHER PRIZES.

A.A. Essay prize, value £10 10*s.*, A. S. G. Butler.

Banister Fletcher entrance scholarship to Evening School, tenable for two years, value 28 guineas, P. S. Hudson.

A.A. Entrance scholarship to Day School, tenable for one year, value 48 guineas, F. W. Mathew (Dover College).

* See *The Architect* of July 10, 1914, "London University School of Architecture."

DUBLIN CIVIC EXHIBITION.

THE housing problem in Ireland is of enormous magnitude and its importance was emphasised by the fact that nearly all the leading municipal authorities in Ireland were represented at the opening function and are taking a lively and intelligent interest in the various educational and other conferences and lectures to be held under the auspices of the Exhibition.

One of the chief interests of the Exhibition is Professor Geddes' City and Town Planning Section, which he has been invited to exhibit at Madras, Calcutta, and Bombay in the coming autumn by the Indian Government. The exhibits under the auspices of the Town Planning Association are elaborate and comprehensive and arranged on a larger scale than has hitherto been undertaken at any similar exhibition. In a word the main features of town building from that to be seen in Dublin right back to the plans of ancient Rome are exhibited on various charts and drawings, which are given a human interest by representations of town life in the different stages of civilisation during that prolonged period. Rome supplied the model for all succeeding walled and fortified towns, being built on a square with roads radiating in all directions from the main gates. Then during the Renaissance period the wealthier classes began building colonies outside the walls, and from these were evolved, in easily recognised stages, the garden suburbs of our modern cities, and later still the ideal garden city.

At the top of the landing of the main staircase are a number of pictures showing the beauties of Dublin and others

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showing its slums and slum life. Alongside this is the large scale map drawn specially in connection with Lord Aberdeen's prize of £500 for the best plan for a scheme for the re-building of Dublin and the opening up of main arteries for traffic. Models and illustrations will be shown from Edinburgh, Liverpool, Glasgow, Cologne and Frankfort, and many other cities.

The town planning competition is naturally exciting a great deal of interest and a goodly number of competitors are actually studying at the present moment with the view of sending in their competition by September 1. His Excellency the Lord Lieutenant's prize of £500 is being offered for the best design for the re-planning of Dublin which will be placed first in order of merit by the adjudicators, who will be Mr. John Nolen, Boston, Mass., U.S.A.; Mr. J. C. McCarthy, City Architect, Dublin; and Professor Patrick Geddes.

The Welcoming Club for Oversea Visitors was visited by persons from the most remote parts of the world on the opening day of the Civic Exhibition, many countries being represented: United States, Brittany, California, New Zealand, South Africa, Belgium, Argentine Republic, Australia, Canada, Poland, France, and British Columbia.

INCORPORATED CHURCH BUILDING SOCIETY.

THIS Society held its usual monthly meeting on Thursday, the 16th inst., at the Society's House, 7 Dean's Yard, Westminster Abbey, S.W., Mr. George Cowell, F.R.C.S., in the chair. There were also present: Lord Colchester, Sir Edwin Grant-Burls, C.S.I., the Rev. A. G. Ingram, the Rev. R. R. Powell, the Rev. Canon Edgar Sheppard, K.C.V.O., D.D., Mr. Cardross Grant, Mr. H. P. St. John, Mr. Lewis Wigram, and the Rev. T. T. Norgate, F.R.G.S., F.R.Hist.S., Secretary.

Grants of money were made in aid of the following objects, viz.: Building new churches at Beaconsfield, St. Michael and All Angels, Bucks, £100; Mardy, All Saints, Glam., £150; West Bromwich, St. Andrew, £100; and Barry, All Saints, Glam., £200; rebuilding the Church of St. Peter, Stanley, Wakefield, £150; and towards enlarging or otherwise improving the accommodation in the churches at Broadstairs, Holy Trinity, £90; Church Brough, St. Michael, Westmoreland, £25; Clapham Rise, St. John, Surrey, £25; Deal, St. Leonard, £40; East Leake, St. Mary, Loughborough, £25; Elton, St. Stephen, Peterborough, £15; Llanberis, St. Padarn, Carns., £60; Tunstead, St. Mary, Norwich, £50; and Kilsby, St. Faith, Rugby, £10. Grants were also made from the special Mission Buildings Fund towards building mission churches at Blackmill, Glam., £20, and Connah's Quay, near Chester, £40. Grants were also paid for works completed: Hove, St. Agnes, Sussex, £150; Copnor, St. Alban, Portsmouth, £200; Legsby, St. Thomas, Lincoln, £15; Highgate, St. Augustine, Middlesex, £75; East Bridgford, St. Peter, Notts, £40; Hampstead, All Hallows, Middlesex, £150; Chalfont, St. Peter, All Saints, Bucks, £90; St. Teath, Cornwall, £25; Pirton, St. Mary, Herts, £25; Blofield, St. Andrew and St. Peter, Norwich, £35; Coelbren, Brecons., £25; Laira, St. Mary-the-Virgin, Devon, £100; White Horse Road, Croydon, £25; and Ushaw Moor, St. Luke, Co. Durham, £50. In addition to this the sum of £340 was paid towards the repairs of fourteen churches from trust funds held by the Society.

THE DAYLIGHT ILLUMINATION OF SCHOOLS.

IN 1913 an Interim Report on the Artificial Lighting of Schoolrooms was issued by a Joint Committee arranged by the Illuminating Engineering Society and constituted as follows:—

Professor W. C. Clinton, Mr. J. Darch, Dr. W. Ettles, Mr. F. W. Goodenough, Dr. H. R. B. Hickman, Dr. J. Kerr (Chairman), Mr. W. R. Rawlings, Mr. T. E. Ritchie, Mr. A. Stokes, Mr. S. E. Thornton, Mr. P. J. Waldram, Mr. R. J. Wallis-Jones, representing the Illuminating Engineering Society.

Dr. R. S. Clay, representing the Association of Technical Institutions.

Dr. J. H. Vincent, representing the Association of Teachers in Technical Institutions.

Mr. E. S. Mortimer, representing the London Teachers' Association.

Dr. E. H. Nash, representing the Medical Officers of Schools Association.

Dr. N. Bishop Harman.

Ex-officio.—The President (Professor S. P. Thompson), Hon. Secretary (Mr. L. Gaster), and Assistant Secretary (Mr. J. S. Dow), of the Illuminating Engineering Society.

In that report (see *Architect*, July 25, 1913) it was stated that the daylight illumination of schools was also being considered. In view of the complex and technical nature of the problem involved, a sub-committee, consisting of Mr. W. C. Clinton, Mr. J. S. Dow, Mr. L. Gaster, Dr. James Kerr (Chairman), Dr. E. H. Nash, and Mr. P. J. Waldram, was appointed to deal with the subject.

An interim report of that sub-committee has been printed in the current number of the *Illuminating Engineer* by the Illuminating Engineering Society with the approval of the Council and of the delegates of the Associations represented on the Joint Committee, appointed in 1911.

One of the first tasks undertaken by the committee was to draw up a list of points on which further information was required. A considerable number of photometric tests of daylight were carried out by various members of the committee, chiefly in the course of visits to several schools in London and elsewhere. The committee desire to express their special appreciation of the courtesy of the Wimbledon and Derbyshire Education Committees in affording opportunities for the inspection of schools in these districts.

Eventually it was thought desirable to supplement these researches by an open discussion on some of the most debatable points, and a paper was accordingly prepared and read at a meeting of the Illuminating Engineering Society by Mr. P. J. Waldram, one of the members of the committee.*

It was recognised that certain aspects of school lighting had been exhaustively studied on the continent, and a summary of recent literature on the subject was prepared by the chairman and Dr. E. H. Nash, and formed an appendix to Mr. Waldram's paper. A series of queries on fundamental points connected with daylight illumination was also prepared and circulated among corresponding members of the Society, including various continental authorities who had made the natural lighting of schools the subject of lifelong study. These queries, and the replies received, were subsequently published in the official journal of the Society.

In this way much useful information was obtained and the views of a number of experts were placed side by side. It soon became evident that while there was fair agreement on certain points, there were wide differences of opinion on many others. There were also cases in which it was frankly confessed that the necessary information, on which to base an opinion, was not available.

In view of the admitted importance of good daylight illumination in the schools of this country (in the schools of London alone there are over one million children), it seems desirable that the study of the subject should be taken up in a more systematic manner. Much of the information sought would be of value in other directions; for example, as bearing on the admission of daylight into workshops and factories. It must be remembered that by far the greater portion of the work of the world is still carried out by daylight, and that our conceptions as to what is necessary and desirable by artificial light are moulded to a great extent by our experiences during the day; the study of daylight illumination has therefore a direct interest even to those who are primarily concerned with artificial illumination.

In preparing this interim report the chief aim of the committee has been to summarise the results of several main lines of investigation having for their object the setting up of a standard of daylight illumination in schoolrooms; and to make a few tentative recommendations as to how these principles may best be carried out in practice.

It is also hoped that the report will be instrumental in drawing attention to some of the gaps in our knowledge of daylight illumination and suggesting fruitful lines of further investigation.

It is convenient to draw a distinction between fundamental principles affecting the provision of adequate illumination in schoolrooms, and practical applications, by which is understood the carrying out of these principles in actual practice.

These two aspects of the subject will be dealt with in turn.

* *The Architect*, December 19 and 26, 1913.

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Fundamental Principles.

These separate naturally into two groups:—

Physical, concerning light, climate, the building and its environment.

Physiological, concerning the visual apparatus of the workers and the subjective impression received.

Both of these groups include extremely variable quantities which are difficult to express in numerical terms, except in the form of averages deduced from a large number of measurements.

Sky-brightness, the most important physical quantity concerned, varies within very wide limits according to the time of the year and day, and even the estimated value at a certain hour on a certain day may vary enormously from the average value in the course of a few minutes. The absence of complete data showing the variation in the intensity of daylight in foot-candles according to the time of the year and day in this country (similar to those determined during a series of years for the State schools in Kiel by Professor L. Weber), hinders considerably the investigation of daylight illumination. The committee consider that it would be highly desirable for a series of researches of this kind to be undertaken. In view of the variation in the conditions met with respectively in smoky cities and in the country, it would be desirable for tests to be made simultaneously at several different stations, and they should also be extended over a number of years.

Sky-brightness, however, as a physical magnitude is capable of accurate definition and measurement.

The illumination directly due to the sky at a point on a horizontal plane within a room depends on:—

The amount of sky visible from that point.

The brightness of this area of sky.

Its angular elevation.

If the lighting is effected by vertical windows, the solid angle subtended by the visible sky at any working position in the plane of reference is usually small enough for the illumination there to be given by the formula:—

$$B \omega \sin \theta$$

where B is the brightness of the visible sky expressed in candles per square foot, ω is the solid angle in question, and θ its average angle of elevation. As sin θ is a quantity increasing with θ the value of "high angle light" is demonstrated.

It is sometimes convenient to express the sky-brightness in terms of foot-candles (on the so-called secondary system used in the researches of Weber and others). If e denote the brightness in foot-candles,* then the above formula becomes:—

$$\frac{e}{\pi} \times \omega \times \sin \theta$$

One advantage of expressing the sky-brightness in this way is that the illumination on a horizontal surface due to a uniform sky of indefinite extent parallel (the "unrestricted daylight illumination") becomes equal to the brightness of the sky itself. When the brightness of the sky is estimated by comparison with the illuminated surface within a photometer it is also conveniently measured in foot-candles.

Pleier has worked out a simple formula for obtaining the reduced square degrees of uninterrupted sky visible from a desk. If m is the perpendicular distance of the desk from the window wall, n its horizontal distance in the plane of this wall from the point on the window corresponding to the centre of visible sky, o the vertical height of this point above the desk, a the average horizontal, and h the average vertical width of the portion of window corresponding to sky visible from desk, then $R = \omega \sin \theta$.

$$= 3283 \frac{a.h.m.o.}{(m^2+n^2+o^2,^2}$$

By the aid of this formula and a knowledge of the average variation in daylight illumination throughout the day and year, it should be possible to calculate with fair exactitude the average direct illumination at any point in a given building. This has been proposed by Weber as an aid in school planning. In addition to the value so obtained, there would be a certain extra illumination due to reflection from the walls and ceilings of a room. It is possible that in schoolrooms of standard dimensions allowance for this might be made by using a suitable factor, provided the nature of the walls and ceilings were known. But a considerable number of additional experiments seem necessary to establish this point.

It has also been suggested that the illumination in a room might be predicted by means of experiments with small models, either carried out in daylight or with some form of artificial sky. Some experiments carried out by members of the committee on this point gave promising results, but here again more exhaustive experiments are needed. From inquiries instituted among continental authorities it would appear that few have had experience of this method, but the subject is one that would repay further investigation.

The committee have considered the question of a standard of daylight illumination in schools. The extreme variability of daylight renders an actual measurement of illumination at any particular spot of little service as a standard. On the other hand, the ratio between the unrestricted illumination out of doors and the illumination at a certain point in a schoolroom should be a very constant quantity, dependent on the nature of the building, but independent of climatic conditions within wide limits. Such a ratio might serve as the basis for rules for the attainment of adequate lighting.

Professor L. Weber has suggested that in an adequately lighted schoolroom the illumination on the worst-lighted desk should not be less than 0.5 per cent. of the so-called "unrestricted illumination" from a complete hemisphere of sky, and a similar conclusion was reached independently by Mr. P. J. Waldram in this country.* The measurements so far carried out by the committee suggest that this value is attainable in a well-designed schoolroom.

The simplest and most accurate method of determining this ratio would doubtless be to measure simultaneously the illumination on the worst-lighted desk and the unrestricted daylight illumination as received on a horizontal plane exposed to a complete hemisphere of sky. But in practice it is frequently difficult to find a spot from which the complete sky is visible, and in the experiments undertaken by the committee it was found more convenient to obtain the "sill ratio"—*i.e.*, the ratio between the illumination on the worst-lighted desk and the illumination from a quadrant of sky received on a horizontal surface on the window sill. This value will be affected to some extent by the obstruction of neighbouring buildings. But in the case of modern schools, owing to the space usually allotted to playgrounds, a practically uninterrupted view of the sky should generally be available, and the error so caused will be small. The experiments so far conducted indicate that on the worst desk in well-designed schoolrooms the sill ratio should not be less than 1: 100. This result is in substantial agreement with the suggestion of Weber referred to above, and might be put forward as a tentative standard, pending further investigations.

A school place which required artificial light between 9 A.M. and 4.30 P.M. in normal weather, between March and September, is obviously unfit for use. On the other hand, a school place enjoying a "sill ratio" of 1: 100 should only require artificial light towards the end of the school day in winter.

The daylight ratio may also be determined by methods involving direct observation of the brightness of the sky. In circumstances where it is only possible to obtain a view of a small portion of the sky this method may be used, and may give useful results when the sky is uniformly bright; but in view of the difficulties introduced when skies of very variable brightness are met with, the methods proposed above seem preferable in connection with school buildings.

Physiological factors vary greatly with individuals, and while exceedingly important, their influence is also difficult to assess.

There is little doubt that the eye may suffer congestion and strain owing to imperfect illumination. This may lead to actual damage, and is probably an important factor in leading to the development of myopia (short-sightedness) in the case of individuals so disposed. Poor light causes excessive efforts of the external muscles of the eye to converge the visual axis on the subjects looked at, and also a still more fatiguing effort in many children for the accommodation of the lenses, so as to obtain from a poor light as clear and defined an image as possible. In such a case the head and eyes are generally brought near the object, thus aggravating all the muscular strains. This is a habit which it is

* When a luminous surface is said to have a surface-brightness of so many foot-candles this means that its brightness is the same as that of a dead white surface with a reflecting power of 100 per cent. which receives the illumination of this value.

* A Standard of Daylight Illumination in Interiors, *Illum. Eng.* Lond. Vol. II., 1909, p. 469.

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of special importance to avoid in school work. There is much less need for such excessive effort when the light is sufficient to give the mental picture without strained attention.

In judging the illumination required it is necessary to bear in mind the physiological variations referred to above. It must always be remembered that about 10 per cent. of elementary school children are subnormal to the extent of having only one-third the usual visual acuity, so that any latitude in estimates should fall on the side of excess of light.

But there is another factor which affects the average amount of daylight required for a school desk—the adaptation of the retina. Where average illumination remains fairly constant, as in artificial lighting, adaptation is not a factor of prime importance, and the problem of determining the amount of illumination for reading and writing is less complicated. But in the case of daylight illumination, where a considerable section of the visual field may have a brightness hundreds of times that of the printed page as the surface of the blackboard, adaptation plays an important part.

The impression formed as to the sufficiency of daylight in a room is also influenced by psychical effects. Visibility depends on contrasts in colour and shadow. Subjective feelings of deficiency of light which arise in cases where there is not the usual brightness of surrounding surfaces, even though the desk illumination is ample, need consideration. Such feelings may be produced by rooms lighted from the roof without side windows, or rooms with exceptionally dark walls.

For these reasons it is difficult to prescribe the absolute value of the illumination in the same way as by artificial light. Mr. N. Bishop Harman has advocated a standard of nine foot-candles. It is, however, possible to read with a considerably lower illumination, but in other circumstances a value of illumination much higher than this may appear necessary. For example, on a dull day it has been found possible to work comfortably with 5 foot-candles and to see to read with only half a foot-candle, but on a bright day eight foot-candles, in a shaded corner, seemed insufficient. In cases where playground sheds judged by eyes with daylight adaptation had been complained of as insufficiently lighted, photometric readings of fifteen to twenty-five foot-candles were noted. To investigate completely the effect of adaptation in connection with ordinary daylight illumination would be a valuable piece of work, but was obviously too intricate a problem to be undertaken in detail by the committee.

During most of the school hours a place sufficiently lighted for school work will probably yield photometric readings of at least five to ten foot-candles. In such rooms, during unusually dark weather or in the later hours of the day, the increased sensitiveness of the eye will compensate for decreased illumination. When this illumination on the worst-lighted desk falls to two foot-candles, the standard recommended for artificial lighting, the daylight should be excluded and artificial light used.* It may be recalled that Cohn considered a room sufficiently lighted by day if the worst-lighted place received about two and a half foot-candles illumination.

Weber found that, with the average value of the sky-brightness likely to be met during the hours of study, this illumination should be obtained on any desk receiving 0.5 per cent. of the unrestricted daylight illumination out of doors.

It is likewise advocated by Cohn as being consistent with his recommendation that at the worst-lighted place in a schoolroom 50 square degrees of sky should be visible. There is thus some ground for suggesting that the two foot-candles, as recommended in the recent report on the artificial lighting of schools, should also be regarded as a tentative standard for the minimum readings permissible for illumination by daylight.

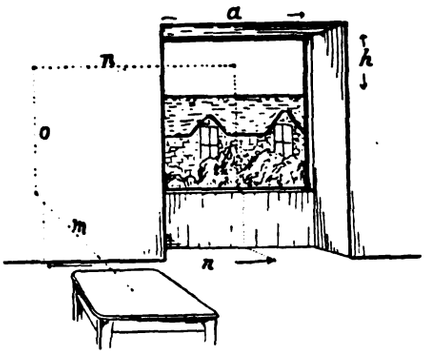
But it seems preferable to adopt one of the methods which largely eliminates the variation in adaptation of the eye by specifying in general terms the conditions enabling a certain access of daylight to be obtained—and hence an adequate illumination with an average brightness of sky—rather than to attempt to specify an absolute value of illumination in the room.†

Another physiological factor to be kept in mind is the glare from excess of sunlight. In England this is not of very great importance, as it can readily be avoided by the use of light blinds and curtains. West rooms sometimes cause trouble owing to the low incident rays from the setting sun. Most horizontal beams of light, as, for instance, those from shiny walls or badly arranged prismatic glass or mirror reflectors, may cause glare, and therefore intense light from this direction should preferably be avoided.

Practical Applications.

It has been remarked that the construction of the most modern schoolrooms, favourably situated as regards obstruction from neighbouring buildings, enables them to comply with the fundamental requirement that the worst-lighted desk should receive not less than 0.5 per cent. of the unrestricted daylight illumination out of doors. The other recommendation, that the illumination on the worst-lighted desk should be at least as great as the illumination derived from 50 square degrees of sky, leads to very similar results. For example, in general modern practice it is found that if the angular elevation of the top of the window-glass from any desk is not less than 27° and a strip of sky not less than 4° vertical opening is visible, the solid angle will almost certainly exceed 50 square degrees in value. This angle of elevation of 27° for the top of the window-glass implies that no part of any desk should be further from the window than twice the height of the window-top above the desk.

It will be observed that the rules of the Board of Education specify that "in the absence of a supplementary light the measurement from the window-wall in a room 14 feet high should not exceed 24 feet 8 inches." With these dimensions the angle made with the top of the window glass is not far removed from the value suggested above.



The committee have found the Building Regulations (1907) of the Board of Education to be generally productive of good and useful results. It would appear, however, that the words "top of glass in windows" should be substituted for "top of windows," so as to stipulate that the top of glass should be at least the same relative height in deeper or shallower rooms. There also appears to be no serious structural reason why windows in classrooms should not be flush with the ceiling. In view of the desirability of securing a strong light on the ceiling, and utilising to the full the efficient upper portion of the window, this is recommended. Any diminution in glass area with a view to conserving heat should be made at the bottom, provided that the raising of the sill does not detrimentally affect the lighting of the desks adjacent to the window wall.

Experience shows that the area of window glass should not be less than one-fifth of the floor space in rooms up to 20 feet across, and one-quarter of the floor area in wider rooms. The window should be square-topped and its effective area should not be diminished by ornamentation, pillars, ledges, or cornices, but all edges should be bevelled off. The obscuring of glass in windows, and neglect to keep them properly clean, are frequently responsible for a considerable loss of light.

As the lighting of a many-storeyed school with surrounding buildings will be worst in the lower floors, the ground-

* Reference may be made to a suggestion made in the course of the discussion of Mr. Waldram's paper before the Illuminating Engineering Society on December 16, 1913, that an apparatus should be designed to indicate automatically when the daylight illumination in a room had fallen below a prescribed value and artificial light was necessary. A trustworthy instrument of this kind would seem to have important applications in schoolrooms and factories.

† A rough test of sufficiency of lighting is provided by the readings of certain varieties of type. For example, if diamond type can be read easily at 20 inches the light is regarded as sufficient; this is confirmed if the letters can be deciphered when looked at through a smoked glass which absorbs 96 per cent. of the light.

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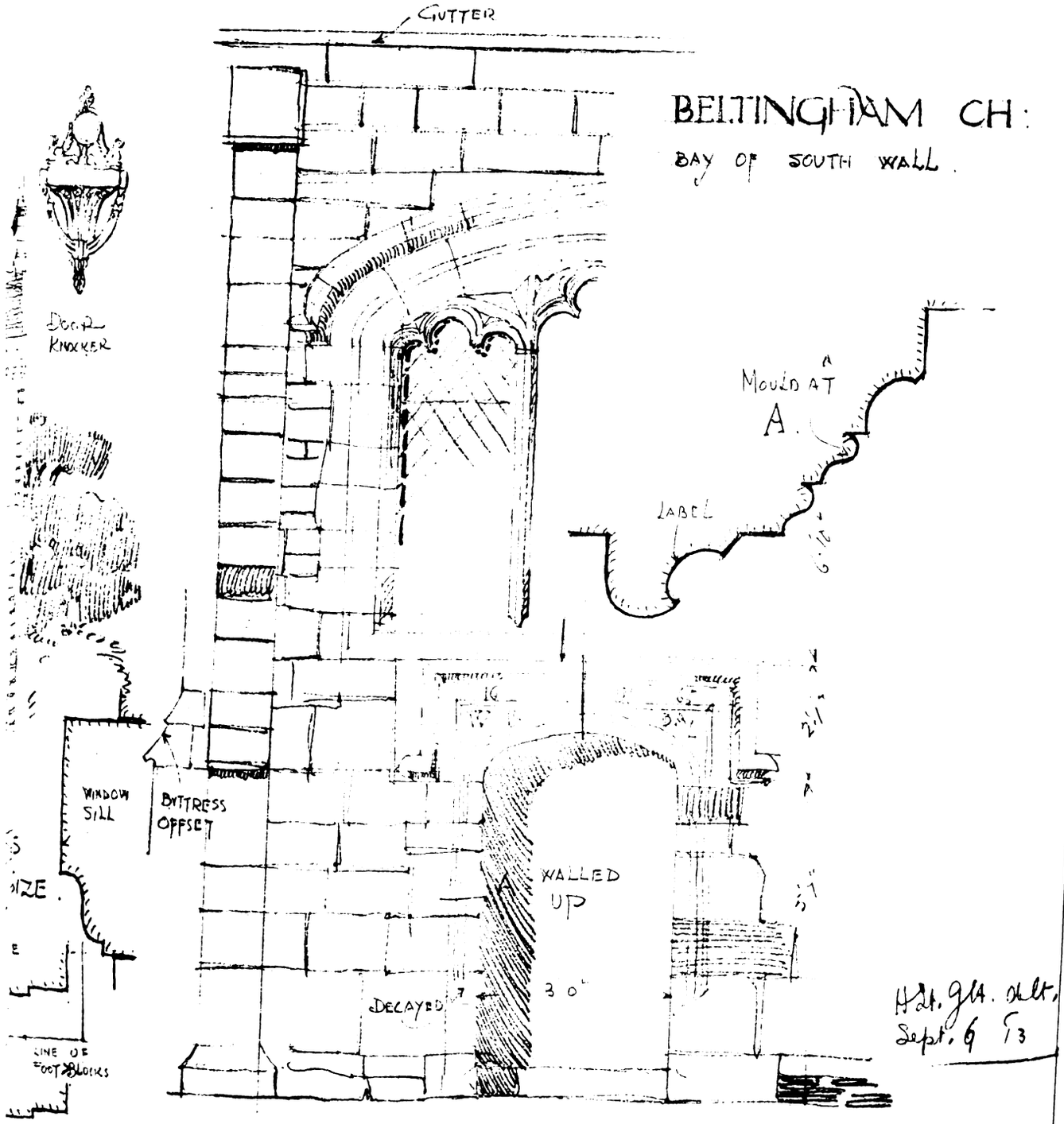
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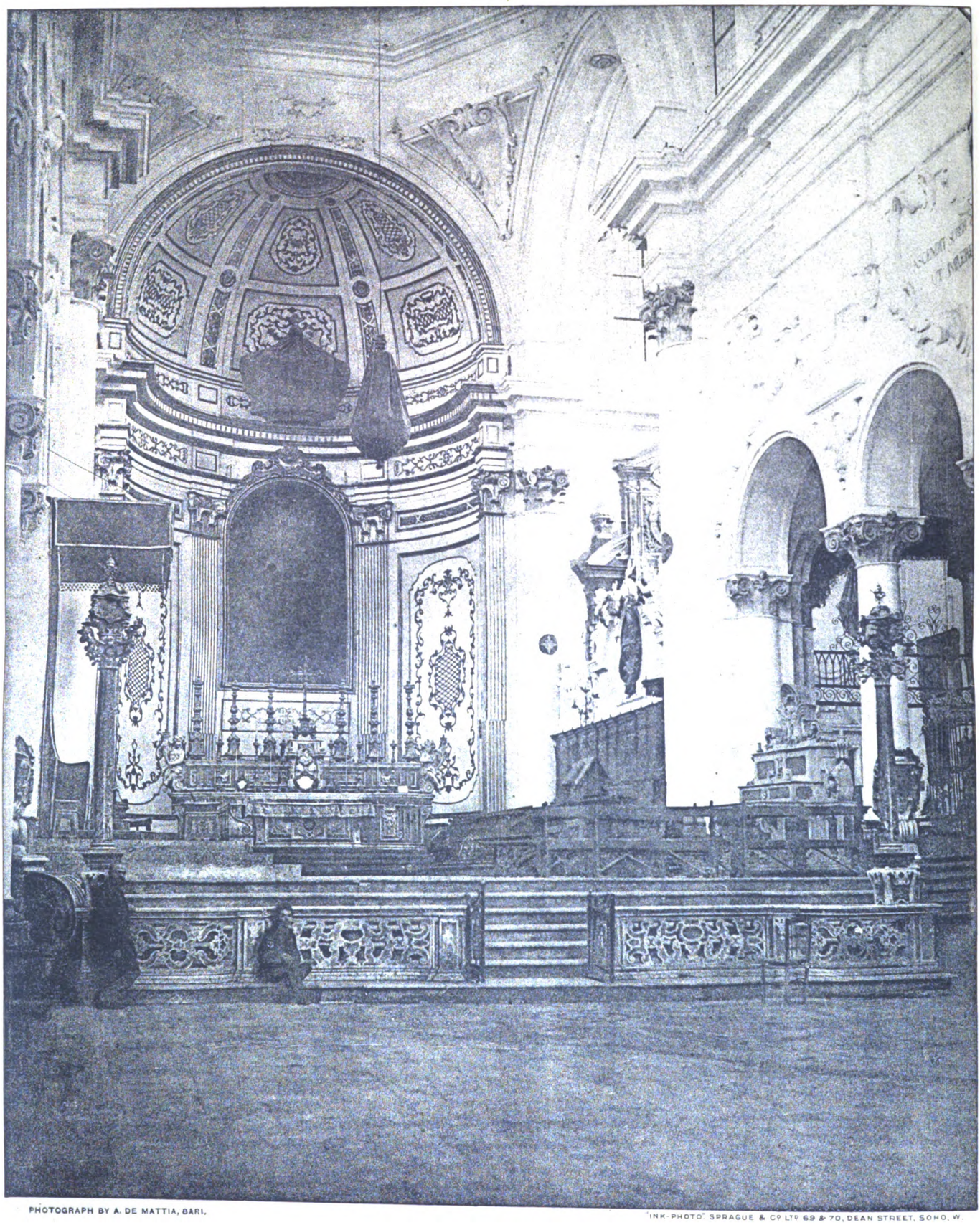
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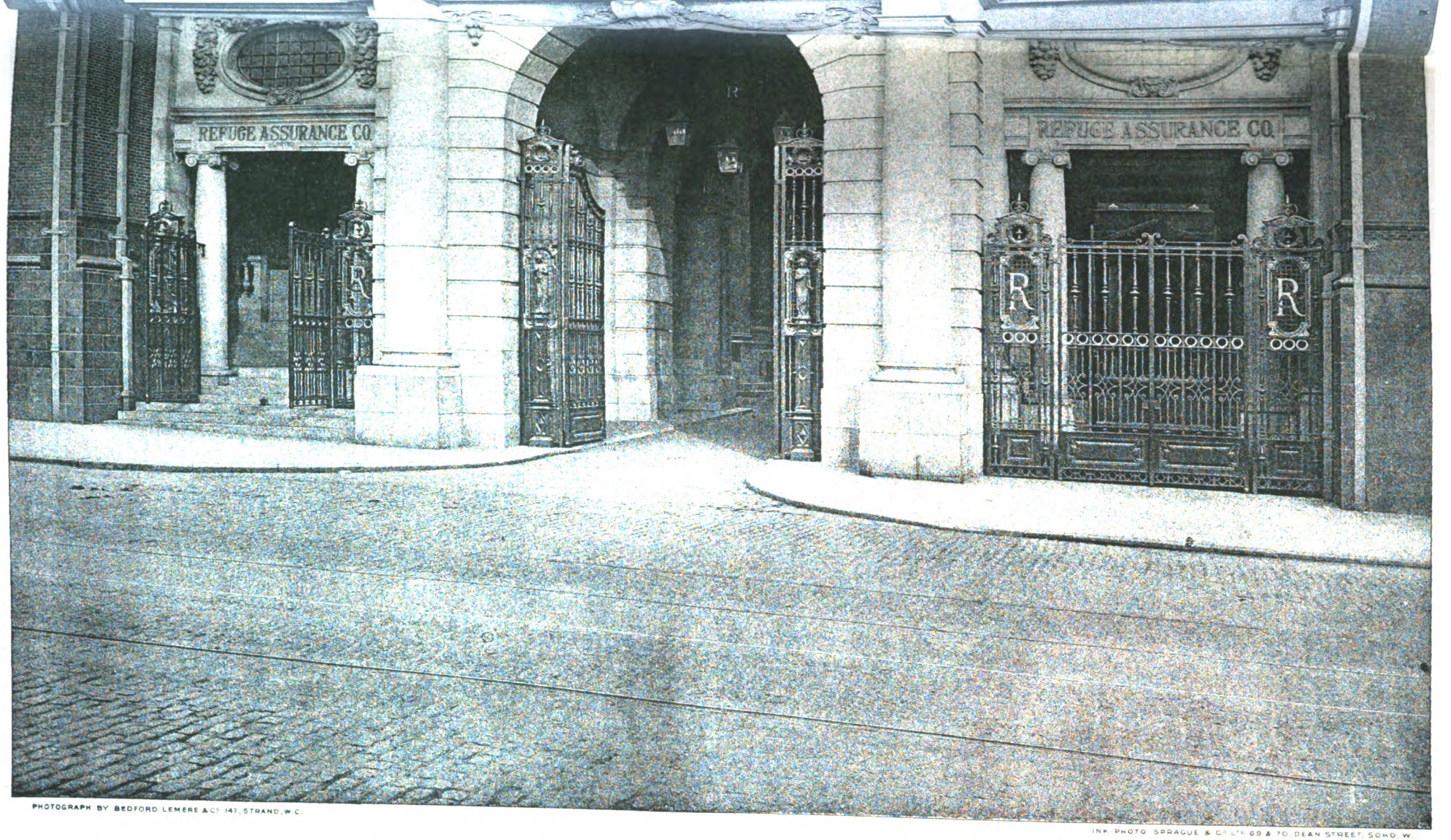
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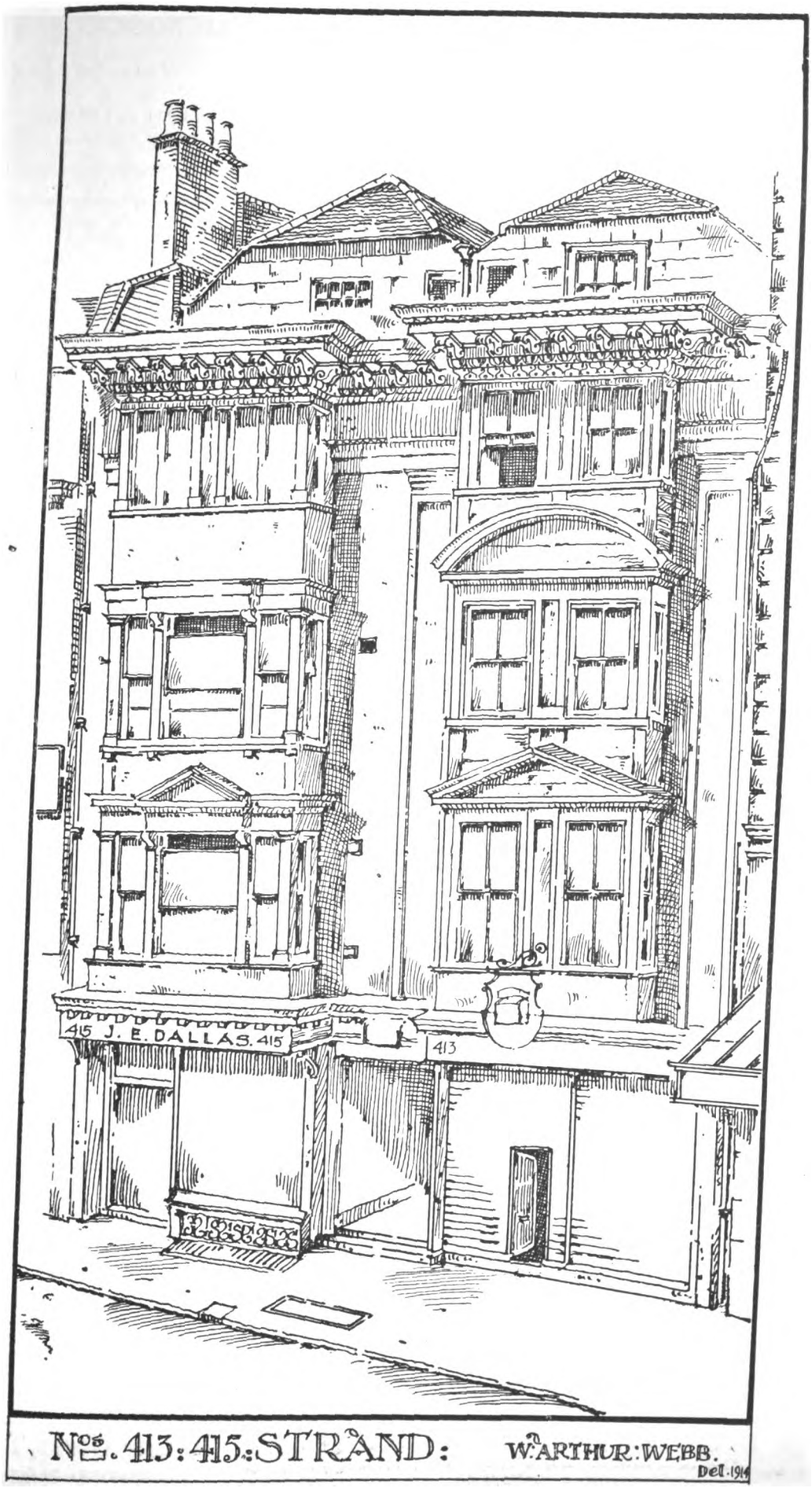
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floor should be used for offices, cloakrooms, bath-rooms, dining halls, &c. It would be advantageous to increase the height of the windows in the lowest schoolrooms reducing the height of the top floors if necessary. In the lowest rooms the smallest desks should be used, as every increase in the height of desks means an equivalent potential decrease in height of window top. At the same time most light is needed in the infant class-rooms (which are usually placed on the lower floors of school buildings) and where the smallest furniture can be used.

There is now a consensus of opinion that the lighting of classrooms should be from the wall on the left-hand side of the children. Right-handed lighting is to be deprecated as causing confusing shadows. In general bilateral lighting is less satisfactory than left-lighting, although in some special circumstances it may be permissible.

Lighting from behind the teacher is usually a source of glare to the children who face the window. Similarly, lighting from behind the children is apt to cause glare and discomfort to the teacher. It is also educationally disadvantageous in that the children's faces, being seen against a bright background, are not well defined. Moreover, back-lighting is apt to cause shadows of the children to fall on their work, and may lead them to assume unnatural and harmful positions.

Roof lighting generally provides an abundant light, but, unless used with discretion, gives a comfortless impression. It is useful in workshops, carpentry, and manual training centres, and is often desirable as a secondary means of lighting. Skylights, which are apt to leak, are to be distinguished from lantern lights and dormers, which, besides being very useful in mitigating defects in lighting, are often also useful as a means of ventilation.

Where a window as an aid to cross draught ventilation is located in other than the main lighting walls, it should be high, and it would perhaps be an advantage to have its light reflected to the ceiling. Borrowed lights are particularly ineffective. The fraction of light passing is in general of small value, and the loss of reflection from the wall area replaced by glass may be considerable. Glass partitions in the wall of a classroom tend to transmit noise from adjacent rooms and also have a distracting effect, causing the attention of children to wander.

The sloping of floors, and the raising of back desks to give children occupying them a better view of the blackboard, should be condemned if leading to loss of valuable high angle light. The committee have also considered the desirability of slewing desks slightly, so as to enable a book or paper held vertically to receive a better illumination. It appeared that a material increase in light could be obtained in this way, but the advantage was only sufficient to justify the consequent curtailment of gangway space in extreme cases.

The internal decoration of a schoolroom should be arranged with a view to good diffusion of light. The ceiling and a frieze of 2 feet should preferably be white. The walls behind the children and opposite the windows should be light-tinted from at most 30 inches above the desk level; below this level the walls might with advantage be somewhat darker. The practice of covering the walls with white diagrams on black material may interfere with the reflection of light from the walls. From this standpoint diagrams on a white background are preferable. The wall surrounding and behind the teacher's blackboard should not be too light. The desks and furniture should all be finished a comparatively light colour (grey or dove colour is very suitable), and dark colours or black should be avoided.

These suggestions might be summarised as follows:—

No place is fit for use in a schoolroom when diamond type cannot be read easily by a normal observer at a distance of half a metre (20 inches).

The darkest desk in any schoolroom should receive an illumination equivalent to that derived directly from fifty reduced square degrees of visible sky. In these circumstances the place should receive not less than 0.5 per cent. of the unrestricted illumination from the complete sky hemisphere.

The windows should be located in the wall to the left of the pupils, and the glass should be carried to the ceiling and not interrupted by cornices, pillars, or decorations.

No desk in a schoolroom should be farther from the window wall than twice the height of the top of the glass above the desk surface.

The ceiling should be white. The wall opposite to the window and the wall behind the children should be lightly coloured from 30 inches above the desk level. The wall around or behind blackboards should be somewhat darker than the rest of the room.

All furniture, desks, and surfaces in the lower part of the room should be finished in an unobtrusive colour, dark shades and black being avoided.

Conclusion.

The committee would like to make it clear that the suggestions in this report are tentative and that there are many fundamental points affecting the admission of daylight into buildings on which further information is desired to put the subject on a scientific basis.

Reference has been made to several lines of investigation which require to be carried out on a scale beyond the resources of the committee to yield satisfactory results.

The report concludes with half a dozen suggested lines of investigation, and there is an appendix dealing with legislation and by-laws dealing with windows and a further appendix on the measurement of solid angles.

The report appears *in toto* in the current number of the *Illuminating Engineer*.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BEDFORDSHIRE.

Luton.—Two houses, Alexandra Avenue, for Mrs. Higgins.
Two houses, Russell Rise, for Mr. J. T. Garrett.
Two houses, Althorp Road. Mr. C. H. White, builder, 70 Dunstable Road.
House, Arundel Road, for Mr. A. J. Hancock.
Four houses, Biscot Road. Mr. J. Tomkins, builder, Langley Road.
Four houses, Cavendish Road, for Mr. F. Thomas.
House, Dunstable Road, for Mr. B. E. Fullbrook.
Two houses, Dunstable Road, for Mr. F. Timms.
Eight houses, Leagrave Road. Mr. T. Day, builder, Smart Street.
Two houses, Reginald Street. Mr. G. Kingham, builder, 106 Old Bedford Road.
Shop premises, Collingdon Street, for Mr. H. Inwood.
Works, Kimpton Road. Extensions for Vauxhall Motors, Ltd.

BUCKINGHAMSHIRE.

Denham.—Seven cottages, Oxford Road, for Mr. J. Bell White.
"Southlands": additions and alterations, for Mr. G. F. Gadsden.
Gerrard's Cross.—House, near the Common, for Mrs. H. M. Woodbridge.

CHESHIRE.

Macclesfield.—Business premises, Grosvenor Street, extensions for Messrs. T. H. Donohue. Messrs. Whittaker & Bradburn, architects, 19 King Edward Street. Messrs. Roylance & Sons, contractors, Waters Green.
Neston.—Hinderton Hall, alterations, for Sir P. E. Bates.
The "Weatherstones," additions, for Mr. J. Herron.
House, Liverpool Road, for Mr. S. Leatham.

DERBYSHIRE.

Mickleover.—Asylum, alterations (£1,000).
Taddington.—Taddington Hall, extension, for the Tuberculosis Committee of Derbyshire County Council.

DEVONSHIRE.

Bittaford.—W. M. Church (£600).

DURHAM.

Lartington.—Roman Catholic Church of St. Lawrence.
Ushaw Moor.—House, for Mr. A. N. Ray.
Washington.—Forty-seven workmen's houses, for Chester-le-Street Rural District Council. Mr. J. H. Mole, Council Surveyor (£12,200).

ESSEX.

Orsett.—Isolation Hospital, Little Thurrock, extensions (£4,150). Mr. C. M. Shiner, A.R.I.B.A., architect, The Gate House, Grays.
Tilbury.—234 workmen's houses (£50,000). Mr. Pepler, architect, 4 Arundel Street, Strand, London.
West Thurrock.—Fourteen Council houses. Mr. E. F. Winter, architect.

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ENGLAND—*continued.*

GLOUCESTERSHIRE.

St. George.—Ebenezer Independent M.C. Sunday School, Bell Hill, for 120 places.

HAMPSHIRE.

Portsmouth.—Consumptives' Hospital, Langston.

Southampton.—Taunton School, Highfield Uplands (for 400 boys).

HERTFORDSHIRE.

Bishop Stortford.—Congregational Sunday Schools (£2,700).

KENT.

Gillingham.—Public baths (£3,500).

Maidstone.—Proposed Agricultural Hall, for the Town Council (£4,000).

LANCASHIRE.

Abram.—Church. Mr. F. R. Freeman, architect, 21 Wood Street, Bolton.

Bolton.—Bakery, Hereford Street, for Mr. H. Warburton.
Eight houses, Bennett's Lane, for Mr. G. Hargreaves.
Two houses, Albert Road, Heaton. Mr. W. Gornall, builder, 111 Ellesmere Street.
Two houses, Church Road, Smithills, for Messrs. Robinson & Hall.
Houses, Milk Street, alterations, for Messrs. Johnson, Hodgkinson & Pearson.
Offices and house, Blackburn Road, for Messrs. J. B. Scholes & Sons.
Stables and house, Fairclough Street. Messrs. Dickinson & Co., Ltd., builders, Bark Street.
Premises, Market Street, re-building, for Messrs. Beaty Bros.
Vicarage, Willows Lane, alterations, for Mr. R. B. Preston.
Warehouse, Carlton Street, re-building, for Messrs. G. Nelson & Son.

Liverpool.—Church Hall, Hightown. Messrs. Shepherd & Bower, architect, Royal Liver Buildings, Pier Head.
Picturedrome, Warwick and Lamport Streets, for Mr. F. Hill.
Picture Theatre, Moss Lane, Orrell Park, for Mr. A. Smith.
Theatre, music hall and circus, Park Road and Gaskell Street. Mr. W. W. Kenworthy, architect, 263 Village Road, Wallasey.

Manchester.—School for St. Anne's, Longsight.
University Arts building (£30,000).
Wash-baths and wash-houses, Lower Moss Lane, Hulme.

Wigan.—Girls' High School (£11,500).

LINCOLNSHIRE.

Lincoln.—Two houses, Queensway. Messrs. Wright & Sons, Ltd., builders, Park Street.
House, Mainwaring Road, for Mr. J. Streets.
Four houses, Monks Road, for Mr. J. Plummer.
House, Weir Street. Mr. F. Horton, builder, Shakespeare Street.
Newsboys' House, Swanpool Court, for the Trustees.
"Manvers Arms" Inn, Danesgate, alterations, for Messrs. Mowbray & Co.
Mill, Montague Street, alterations and extensions, for the Co-operative Society.
Picture House, High Street, conversion, for the Lincoln Picture House, Ltd. Messrs. Naylor & Sale, FF.R.I.B.A., architects, Smiths Bank Chambers, Market Place.

MIDDLESEX.

North Ealing.—St. Barnabas Church (for 1,000 sittings), Pitshanger Lane. Messrs. Shearman & Tyler, architects (London and Winchester). £10,000.

NORTHAMPTONSHIRE.

Brackley.—Council school (£3,600).

Little Irchester.—Infants Council school (£950).

Moulton.—Council school, additions and alterations (£1,400).

NORTHUMBERLAND.

Newcastle-on-Tyne.—Headquarters 5th North. Fus., alterations and improvements. Messrs. Graham & Hill, architects, 6 Eldon Square.

NOTTINGHAMSHIRE.

Langley Mill.—Baptist church. Mr. J. W. Winter, architect, St. Peter's Close, Sheffield.

SHROPSHIRE.

Quina Brook.—New P.M. chapel.

SOMERSET.

Crewkerne.—Twenty Council houses. Council surveyor.

STAFFORDSHIRE.

Newcastle-under-Lyme.—Baptist church (£2,100), corner of London Road and Vesey Street. Messrs. G. Baines (F.R.I.B.A.) & Son, architects, 5 Clement's Inn, Strand, London. Messrs. Tompkinson & Bettelley, contractors (of Longton).

Wolverhampton.—Sixty workmen's houses, Green Lane (£10,200). Borough surveyor.

SUFFOLK.

Lowestoft.—House, Royal Avenue, for Mr. W. G. English.
Two houses, Winnipeg Road, for Mr. G. Ansdell.

SUSSEX.

Crawley.—Council school.

Midhurst.—Four workmen's cottages, Milland. Mr. A. G. Gibbs, Council surveyor.

Westhampnett.—Isolation hospital, Summersdale. Mr. L. Bell, Council surveyor.

WARWICKSHIRE.

Birmingham.—The Hippodrome, Hurst Street, alterations (£12,000).

YORKSHIRE.

Barnsley.—Town Hall (£30,000). Mr. P. H. Topham, architect, 4 St. Ann's Square, Manchester.

Batley.—Police Station (£6,300).

Carcroft.—Presbyterian church.

Elland.—Southgate U.M. church (£3,800).

Harrogate.—Market Hall, rebuilding. Borough surveyor.

Middlesbrough.—Proposed new Baths.

Selby.—104 Council houses, Flaxby Road.

Sheffield.—Proposed Synagogue.
Union Hospital, extensions (£23,000).
Baptist Church, Hillsborough.

WALES.

Llandudno.—Twenty-four workmen's dwellings, King's Road (£4,900).

Pen-y-Graig.—"Butchers' Arms" Hotel: re-building. Mr. R. S. Griffiths, architect, Gilfach Road, Tonypandy.

Rhos.—Forty-four workmen's dwellings, Gardden.

SCOTLAND.

Arbroath.—Buildings, corner of High and Hill Streets, for the Prudential Assurance Co., Ltd.

Blairgowrie.—Public Hall, proposed improvement (£2,500).

Dalry.—Buildings, New Street, for the Co-operative Society.
Drill Hall for Ayrshire, T.F.A.

Dundee.—Hall, Salem Street, for Trustees of Ward Chapel.

Dunlop.—Tenement, Main Street. Mr. R. Smith, builder.

Galashiels.—Burgh Buildings, extensions (£8,250). Sir R. Lorimer, F.R.I.B.A., architect, 49 Queen Street, Edinburgh.

Irvine.—Workmen's cottages and houses, Bank Street, Kirk Vennel and Ayr Road.
Infectious Diseases Hospital.

Kirkcaldy.—Buildings, corner of Loughborough Road and St. Clair Street, for the National Bank.

Leith.—Gymnasium and workshops, Duncan Place and Duncan Street, for the School Board.
Tenement of houses, Primrose Street, for the Co-operative Building Co.
Phthisical sanatorium, East Pilton.

Lockerbie.—Slaughterhouses. Mr. J. B. Gladstone, architect, 61 High Street.

Selkirk.—Swimming Baths.

Skelmorlie.—Wemyss Bay Hydropathic, additions.

IRELAND.

Ardee.—Artisans' dwellings.

Dublin.—Electricity Supply, additions to buildings (£18,000).

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 14,805. June 26, 1913.—Building Construction. C. H. Provis, of Highfield, Mutley Road, Mannamead, Plymouth. This invention relates to building construction of the kind in which grooved base blocks and vertical pillars made in sections are employed made of concrete or stone and adapted to receive the edges of slabs that are used to form the main part of the walls, and the invention has for its object to provide an improved construction for employment

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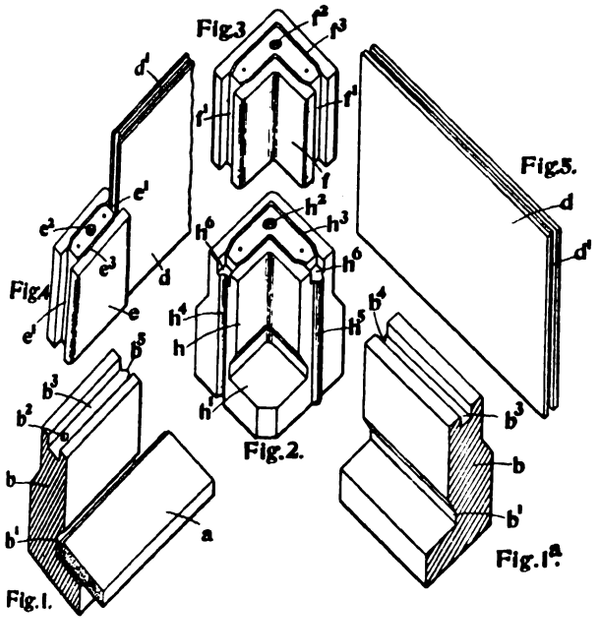
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in the building of sanatoria, hospitals, and other buildings generally wherever an effective fireproof and inexpensive construction is desired. The base blocks are provided with inwardly protruding edges to serve as a supporting surface for the flooring or paving, and the pillar or pilaster blocks are provided with recesses on their top and bottom faces in communication with the vertical grooves in the blocks within which the edges of the slabs lie. By such means effective provision is made for the flooring or paving, and by the communication provided between the vertical grooves in the blocks with the recesses on their top and bottom faces the blocks and slabs are effectively secured by the liquid cement or grouting used. Figs. 1 and 1A are perspective views of base blocks in section, Fig. 1 also showing a paving slab in position; Fig. 2 is a perspective view of an angle base block; Fg. 3 is a perspective view of an angle or corner block as used for the formation of corner pillars; Fig. 4 is a perspective view of a pilaster block showing part of a grooved wall slab in position; Fig. 5 is a perspective view of a grooved wall slab. Means are provided for the reception of a flooring or paving *a* (Fig. 1) of slabs of concrete or stone, consisting in the formation of the base blocks *b* with their lower parts protruding inwardly to serve as a support for the edges of the paving slabs *a*. The whole structure is erected on a concrete foundation *c* and the concrete is levelled flush with the face of the inwardly protruding lower parts of the base blocks, and thus a supporting surface formed for the flooring or paving. The base blocks *b* are provided at the angle with recesses b^1, in which the edges of the flooring or paving slabs *a* may fit in cement and a cement joint be made with its face continuous with the inner vertical face of the base blocks. Vertical holes b^2 are provided for the insertion of iron rods which are grouted in to bind the respective pilaster blocks forming the pillars to the corresponding base block. The upper edges of the base blocks are provided with grooves b^3 for the reception of the lower edges of the wall



slabs *d*. The wall slabs (Fig. 5) are provided with grooves d^1 along their edges and parallel therewith, by which grooves a good joint may be made with cement. Pillar or pilaster blocks *e* are provided in sections at intervals as required, as well as angle or corner blocks *f*. Pilaster blocks *g* are also provided for the reception of cross partitions. The pilaster blocks *e* (Fig. 4) are formed with grooves e^1 in their vertical edges for the reception of the edges of the slabs *d*, and with a hole e^2 or holes through which an iron rod may pass for binding all the blocks of a pillar together, while the top and bottom faces of the blocks are provided with recesses e^3 in communication with the vertical grooves e^1 on each side, and into which cement may be applied. The angle or corner pillars may be provided in blocks *f* (Fig. 3), the base section *h* (Fig. 2) being provided uniform with the base blocks *b* and having its lower part protruding inwardly as at h^1. The vertical edges of the base block *h* are provided with a vertical recess h^4 and a vertical rib h^5. The recess h^4 engages with a vertical rib b^5 formed on the vertical face of the adjacent base block *b*, while the rib h^5 similarly engages a recess b^4 in the other adjacent base block *b*. Holes h^2 and f^2 are provided in the blocks in alignment, through which a rod or rods may pass for binding the whole together, or through which cement or concrete may be passed. The angle blocks and the angle base blocks are provided with recesses f^3 and h^3, the recesses f^3 being in communication with the vertical grooves f^1 of the same block, while the recesses h^3 are in communication with recesses h^6 at the upper corners of the angle base block. The pilaster blocks *g* (Fig. 7) for the reception of cross partitions may be provided with a part g^4 outwardly extending at right angles, and with vertical grooves g^1 for the reception of the slabs or parts forming the main part of the partition and the walls. These blocks may be bound together, and they may be provided with sunk or recessed upper and lower faces g^3 and with holes g^2 for the purpose previously described. June 24, 1914.

PATENT SPECIFICATIONS PUBLISHED JULY 16, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 14,699. June 25, 1913.—A. F. Berry, 27 Woodville Road, Ealing. Electric heating apparatus; and No. 16,039, July 11, 1913, ovens; and No. 20,728, Sept. 13, 1913, circulating tanks for hot-water supply systems.

14,863. June 27, 1913.—J. S. G. Telfer, 7 Greenhill Road, Harlesden, N.W., and J. H. C. Boyd, 24 Branksome Road, Merton Park, Wimbledon, S.W. Ventilating fan.

14,970. June 28, 1913.—C. M. Berry, 43 Rhyl Street, Malden Road, Kentish Town, N.W., and Ernest Esdaile, 7 Carlton Parade, Herne Hill, S.E. Paint sprayer.

15,196. July 1, 1913.—Dated under International Convention July 5, 1912. Hugo Junckers, Frankenburg, 68 Bismarckstrasse, Aachen, Germany. Water-heating apparatus for "geysers."

15,384. July 3, 1913.—Alfred Turner, 36 Albert Road, Ramsgate. Ladders.

16,850. July 22, 1913.—A. G. Sadler, Coolabah, Thorby Avenue, Leichhardt, near Sydney, New South Wales. Draught and weather check for hinged doors and windows.

20,156. Sept. 6, 1913.—James Straiton, 230 Strand Road, Bootle, Lancs. Safety attachment for door fasteners.

21,038. Sept. 17, 1913.—William White, 407 Seven Sisters Road, South Tottenham, N. Gas heaters.

21,497. Sept. 24, 1913.—Benjamin Smith, Stone Roof House, Widcombe Hill, Bath. Windows.

21,854. Sept. 27, 1913.—Karl Sinn, Lutzelberg, Lothringen, Germany. Cooking stove with boiler.

26,947. Nov. 24, 1913.—S. R. Parkes, Pretoria Works, Willenhall, Staffs, and C. H. Freeman, 30 Stephenson Street, Wolverhampton. Construction of glazed roofs and the like.

Any of the above specifications may be obtained from J D. Roots & Co.

Correspondence

[*The Editor will not be responsible for the opinions expressed by Correspondents.*]

Architectural Tour in South France.

SIR,—Will you kindly grant me space in your correspondence columns in which to draw attention to the fact that the final arrangements for the above tour are now being made and that those desirous of attending should send in their names without delay?

The tour will start on August 31 and the following places will be visited: Poitiers, Limoges, Périgueux, Cahors, Conques, Rodez, Rocamadour, Cordes, Carcassonne, Nimes, Arles, Avignon, Orange, Le Puy, Issoire, and Clermont Ferrand.

In order to obviate any possible misunderstanding I may say that the tour is open to all interested in the study of architecture, whether ladies or gentlemen.

I shall be glad to send further particulars of the tour to any desiring them.—Yours truly,

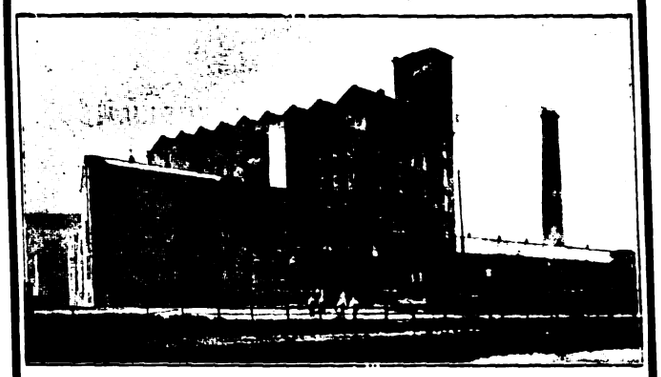
W. S. PURCHON,
Lecturer in Architecture.

The University, Sheffield, July 19, 1914.

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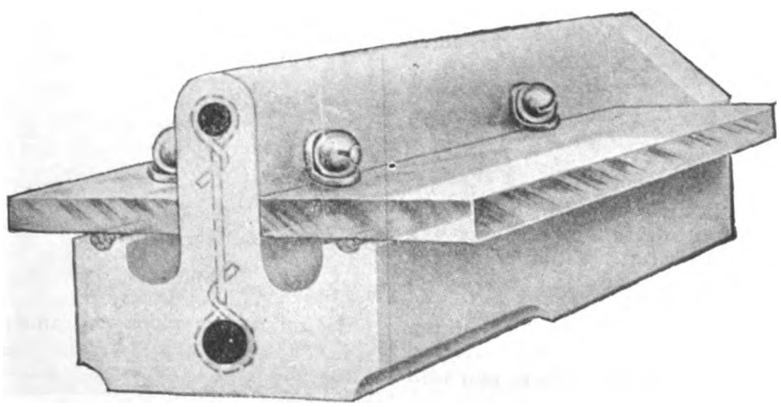
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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, August 3.

Summer School of Town Planning opens in the University of London School of Architecture, at University College (August 3-15).

Monday, August 17 to 21.

Architectural Association: Excursion commences. Headquarters at Devizes.

Monday, August 17.

Cambrian Archæological Association: Annual meeting at Dolgelly (August 17-22).

ROYAL COLLEGE OF ART EXHIBITION OF STUDENTS' WORKS.

FOLLOWING our usual custom on visiting the annual exhibition of students' works at the Royal College of Art we first turn our attention to those of the School of Architecture. With these we must confess to a keen feeling of disappointment till we remember that there are far better examples to be seen in the display at Tufton Street. The School of Architecture at the Royal College of Art is clearly not in a position to make a good show at more than one exhibition at a time. We cannot, however, but regard it as an error of judgment, if such has been the case, that the school should denude itself of its strongest work in its own show in order to compete for approbation in company with the work of other schools. Besides, it can hardly be supposed that the work produced during the session of 1913-4 is so immensely superior to that of former years that only it could be trusted to maintain the fame of the Royal College of Art in the open arena. Surely the best work of preceding sessions was good enough to bear the responsibility of representation, and the work of that just ended might have been allowed to make a fair showing. If, however, the best work of 1913-4 is on view at South Kensington there must be recorded a lamentable fall in quality.

The School of Architecture in the Royal College of Art stands on a different footing from any other architectural school in this country. It is not essentially or principally a school for the training of architects, but a preparatory training ground for those who intend to become art masters or teachers, or possibly may desire to specialise in some other form of artistic production. A very small minority of its students are purposing to become architects, and there is therefore an air of unreality about much of the work, as if the students regarded architecture not as the object of their enthusiastic and lifelong devotion, but as a stage in their education which had to be got through, *nolens volens*, much as the goose-step and setting-up drill is to the soldier.

The laudable intention that students should grasp the principle that there is but one art, and that architecture, painting, and sculpture are all essential as components of the perfect building is apt in practice to degenerate into a feeling that a building is merely a peg on which to hang a scheme of decoration. Even in the studies of existing decoration from St. Peter's, Rome; Fontainebleau, Chelsea Hospital, Genoa, Venice, Siena, and Perugia there is an air of unreality due to an impression conveyed that the students have attempted to restore the original colours of the subjects studied, where this has been applied, combined with conventional tints for unadorned woodwork and shadows projected more or less correctly in accordance with the rules of sciography.

In a group of designs for a lecture theatre and its decoration both the architecture and the decoration are of very indifferent quality. There is a mixture of motifs in both which suggests that the students have studied without comprehending or digesting, and have regarded their studies as merely a collection of materia which in their designs they have thrown together without consideration for congruity. The colour in most instances is crude and as incongruous as the forms. One design, however, that of W. J. Knight, stands out as having a distinct unity of thought, despite a somewhat overwhelming blue ceiling powdered with gold stars, which might be less terrible in execution than on the drawing, and less opposed to the general tone of cool greys and greens. We are in doubt as to whether the scheme of seated figures in a colonnade, with standing ones in niches, is intended to be carried out in paint or in coloured sculpture, as the architectural features with cast shadows correctly projected, according to rule rather than as the effect of the actual lighting, may be only painted; if so, the shadows were better omitted. If the architecture is solid the figure subjects would hardly as shown be satisfactory as paintings on flat surfaces.

A series of designs for a medallion shows much poverty of idea and deficiency in composition. The designs are neither architecture, sculpture, nor decoration, neither fish, flesh, fowl, nor good red-herring, and entirely destitute of medal quality—a specialised branch of sculpture that could hardly be expected from a general body of students at a comparatively early stage of their career.

The designs for a fountain and canopy are also mediocre as a whole, none combining merit both in the fountain and the canopy. As there are no names or means of identification we are unable to point out those that are fairly successful in either of the constituent parts, which where this is the case is usually in the fountain rather than the canopy.

The most successful designs as a group are those for the hall of a castle keep, which are more in the nature of archæological studies, and therefore better within the compass of attainment of students who are but tyros in architectural design. It takes more than the study of one or even half a dozen good old examples to make an architect, and the general impression left by an inspection of the designs made in the School of Architecture of the Royal College of Art is that their authors are trying to

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run before they can walk. In fact, their performances are hardly better than a feeble crawl.

The best work in the school is to be found in the "studies," some excellent pencil work, for example, being seen in the studies of woodwork and in others from Greek and Renaissance examples, but as presumably all students have learnt to draw before they are admitted to the School of Architecture it is not surprising that the drawings of old work are of good quality.

In the School of Sculpture and Modelling the best work is the purely technical carving of marble. Omitting the Prize of Rome competition, which we have already reviewed, the principal effort in sculpture design is a Monument to Shakespeare, of which there are several examples. The work of the travelling scholar for 1914, W. Marsden, might be a monument to anybody and is remarkable chiefly for a crowded group of figures whose symbolical meaning, if any, it is difficult to determine. The main idea of this student, as of others, seems to have been to crowd as many figures into a given space as possible. Others who have adopted a simpler monumental form, as, for example, C. T. Wheeler, make the mistake of including in one work figures on widely different scale. The figures modelled from the nude lack distinction and ideality. They are too literally portraits of the mere outward form.

The School of Painting and Mural Decoration bewilders us with variants on the theme of incidents in the life of St. Francis of Assisi, which "are not intended for mural decoration, but represent home work," we are told in the catalogue. If we were told "home-jokes" we should have believed it, as few of the students seem to take the subjects seriously or to care very much about St. Francis and his life. Mr. R. L. Swinden's picture of "St. Francis preaching to the birds" stands out, however, from the ruck and deserves praise; and Mr. H. E. Stanton's two studies of "St. Francis subdues the wolf of Agobio" are also serious and successful. Mr. Stanton also has clever sketches for a ceiling design and a good cartoon for the same. As specimens of mural decoration Mr. W. J. Rowden's "Summer," Mr. C. W. Hermann's "Panel for bathroom," Mr. H. N. Burns' "Panel for part of decoration of Agricultural Hall," and Mr. W. Travis's "India—part of scheme for decoration of entrance hall to a shipping office"—are satisfactory both in composition and colour, granted that the apparent principle of the school is correct that colour in mural decoration should be in flat masses either with or without outline.

The School of Ornamental Design is more remarkable for the excellence of "studies" by the students than for design, but we must make exception in this respect in favour of hand-painted tiles by Mr. C. E. Cundall and of stained glass by Mr. P. R. Paul, Mr. J. Nixon, and Mr. W. Ward, whilst Mr. Cundall also shows skill in glass as well as tile.

The School of Etching and Engraving as usual is a pleasure to visit. Possibly when a student has learnt to draw and has grasped the technique of etching there is required only a moderate amount of artistic instinct to enable him to do fairly good and pleasing work, but such productions as "Verona," by W. H. Ansell, "Harper's Arms," by M. K. Hughes, and "St. Germain, Paris," by Ray Jones, are very much more than fairly good.

NOTES AND COMMENTS.

THE controversy in progress in the daily Press as to the existence, or otherwise, of "cancer houses" is one that is almost incapable of a definite and unbiassed conclusion. On the one hand we have the Society for the Prevention of Cancer alleging instances of old houses in which numerous cases of cancer have occurred, and on the other side the Imperial Cancer Research Fund has given wide publicity to the expression of Dr. Bashford's opinion to the effect that "cancer houses," and presumably the infectivity of cancer, are myths. Without assuming that, because cases of cancer have occurred—if it is so—with unusual frequency in old houses, therefore the germs of cancer have been present and have produced the disease, it may very well be understood that the conditions of old houses have reduced the vitality of their inmates, and so predisposed the subjects to contract the disease, whatever may be the ultimate inducing agent. Architects know that when old houses are pulled down it is a very common thing to find the whole space between floors and ceilings beneath them filled with the dust and dirt of ages, which, if not actually containing specific virulent disease germs, may be expected to diminish vitality and reduce the power of resistance.

A correspondent of the *Liverpool Courier* voices what may very well be the view of thoughtful members of the general public that modern buildings which lack visible means of support may be actually unsafe. Here we reach the essential difference between the point of view of the engineer and the architect. The former is only concerned that his work shall possess a given margin of safety, and usually as small a one as possible. The latter aims at the condition that his building shall appear safe as well as be so. There is, moreover, the consideration that whilst the columns and stanchions of modern steel-frame construction may be perfectly safe under the conditions for which they are designed, any slight settlement or the attack of fire may set up stresses of serious moment. Therefore we sympathise with the *Liverpool Courier's* correspondent when he says:—"Without any desire to act the part of alarmist, I feel compelled to draw attention to what seems to 'the man in the street' an increasing tendency on the part of those responsible for the passing of the designs of most of the Liverpool shops and business houses, to sacrifice stability to considerations of floor area and window space. I am not an engineering expert, and, therefore, what may appear to the ordinary person a palpable weakness may perhaps be met by compensating provisions theoretically correct and actually in excess of necessary requirements; but, in view of the fact that the sudden collapse of buildings relying mainly on steel and iron frames is not an uncommon occurrence, I am led to the conclusion that our local authorities are trusting rather too much to the permanent virtues of horizontal girders and iron pillars, and not enough to those of the arched wall, lateral or intermediate."

The Secretary of the Society for the Protection of Ancient Buildings, in a letter to the Press, animadverts on the treatment of the stonework to Chester Cathedral. He says: "Through a praiseworthy desire to maintain the mediæval buildings which form, with Chester Cathedral, so important a group of architecture, considerable harm has been, and is being, done.

"The surface of the stone is specially liable to decay. To prevent this the crumbling stones are withdrawn and new ones take their place, with the result that parts of the facing of the cathedral cannot any longer be considered valuable as examples of mediæval architecture, for they are no older than ten or fifty years, as the case may be. The same work is now in progress at the refectory."

The argument seems to us particularly weak. If the stones have already decayed and crumbled, wherein lies their value as examples of mediæval workmanship, and how can the Society's methods of treating stone surfaces preserve what has already vanished? They may show that something at one time existed prior to the twentieth century, but as to what that may have been no evidence is offered, and we think the Dean and Chapter are quite justified in replacing old decayed stone by new, and declining the kind offer of the Society to insert their nostrums instead.

The Joint Annual Report of the State Forestry branches states that it is known that there are very large areas of uncultivated land which would produce better results financially from the growth of timber than from

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the present methods of utilisation, and there are a group of social economic considerations of considerable weight, such as the provision of adequate supplies of those timbers which are essential in every way to the industrial prosperity of this country, and such as the settlement of a larger population on the land.

The total value of timber and wood pulp imported into the United Kingdom in 1912 was over £36,000,000, of which certainly more than 80 per cent. was derived from coniferous timber. This is precisely the type of timber for the growth of which the waste land of the country is best adapted. Since about 1880, when modern means of transport were more thoroughly developed, there has been a steady all-round rise in the price of timber, and when existing prices are considered in relation to sources of supply, it will be found that there is every probability of this rise continuing.

It is well known that the increase in price has been accompanied by a deterioration in quality. One disquieting fact is that, as definite surveys are made into the extent of virgin forests in various parts of the world, the results disclose that the reserves are by no means as large as had been anticipated. There were imported in 1901 1,880,000 loads of pitwood, valued at £2,053,000, against 2,896,000 loads, valued at £3,376,000, in 1911. It is clear that a ready market for small thinnings suitable for pit-props or for pulp-wood is of great importance from the financial side of the afforestation question. With regard to the settlement of a larger population on the soil in a grazing estate, the amount of employment is increased by about 60 per cent. on beginning afforestation operations. Gradually, as the plantations fall to be thinned and the produce converted, the increase must become much greater.

The total area of woodlands in England and Wales is 1,884,000 acres. Over 95 per cent. of this is privately owned, and it is probably producing not more than one-half of its maximum yield. It is not possible to make an accurate estimate of the value of this property, but a conservative estimate would be between 25 and 30 millions sterling. The improvement of existing woodlands is an important matter. If it were possible to raise the production by even 10 per cent., an effect equivalent to the afforestation of at least 100,000 acres would be obtained.

Crown forests and woodlands amount to 65,766 acres.

Apart from the fact that timber is likely always to be considered the most suitable material for most of the purposes to which it is now put, recent years have seen it adopted for a number of new purposes. The wood-pulp industry is still capable of extensive development, and it may be anticipated that wood will be still more largely used for the purpose of paving.

The increasing population of undeveloped territories and the progressive urbanisation of populations throughout the world will undoubtedly tend to increase the aggregate demand for timber, and, consequently, to force up prices. It is not easy to attempt to predict the course of timber prices. We are within measurable distance of the time when the more accessible virgin forests will have been cut over for the first time. On the other hand, more attention is being paid everywhere to the conservation of timber. Indirectly this has, however, the effect of increasing prices, since the fact that a community recognises the necessity of conservation indicates that a better realisation of the value of timber has been reached, and that purchasers will have to pay accordingly. It is difficult, therefore, to avoid the conclusion that prices must, on the whole, continue to rise steadily.

We have already pointed out that as a speculation for the private landowner, let alone as an investment, the planting of timber with a view to marketing is an exceedingly hazardous business. At the same time the advantage to the nation of a home-grown supply is so indisputable, both from the point of view of employment and of the provision for the necessities of the community, that afforestation might very legitimately be undertaken by the State.

The latest proposal of the London County Council's Special Electricity Committee promises a satisfactory solution of the problem of London's electricity supply, and the attainment of efficiency and economy at present beyond expectation. There are over seventy authorities engaged in supplying in the metropolitan area from sixty generating stations on nearly fifty different systems, and as many different tariffs. The present proposal of the London County Council is a compromise. On the one hand the public is safeguarded by owning the greater part of the capital and receiving the greater part of the profits. On the other hand, commercial management and rapid development in the interests of the consumer are ensured by the placing of the operations of the concern in the hands of a private body under strict municipal control.

The sifting of the Roman rubbish-heaps on the site of the old General Post-Office has, we understand, now been completed, and interesting evidences have been obtained of life in London when the Romans were its rulers.

THE R.I.B.A. EXAMINATIONS.

Preliminary.

THE Preliminary Examination, qualifying for registration as Probationer R.I.B.A., was held in London and the undermentioned provincial cities on June 16 and 17. Of the 150 candidates admitted, 41 were exempted from sitting, and the remaining 109 examined, with the following results:—

Centre.	Examined.	Passed.	Relegated.
London	53	40	13
Birmingham	8	6	2
Bristol	7	7	—
Cardiff	4	3	1
Dublin	2	2	—
Glasgow	3	2	1
Leeds	10	8	2
Liverpool	4	4	—
Manchester	11	8	3
Newcastle	7	7	—
	109	87	22

Intermediate.

The Intermediate Examination, qualifying for registration as Student R.I.B.A., was held in London and the undermentioned provincial cities from June 12 to 19. Eighty-one candidates were examined, with the following results:—

Centre.	Number Examined.	Passed.	Relegated.
London	47	27	20
Belfast	3	2	1
Bristol	3	3	—
Cardiff	5	3	2
Dublin	2	—	2
Glasgow	3	2	1
Leeds	3	2	1
Liverpool	3	3	—
Manchester	11	4	7
Newcastle	1	1	—
	81	47	34

The number of failures among the relegated candidates in each subject of the Intermediate Examination was as follows:—

A. Principal Styles and General History of Architecture	5
B. 1. Simple Applied Construction	18
B. 2. Theoretical Construction	14
C. 1. Historical Architecture	
(*a*) Greek and Roman	1
(*b*) Byzantine and Romanesque	—
(*c*) French and English Gothic	3
(*d*) Italian, French, and English Renaissance	1
C. 2. Mathematics and Mechanics	—
C. 3. Design	22

Final and Special.

The Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from

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June 25 to July 3. Of the 91 candidates examined, 45 passed, and the remaining 46 were relegated.

The number of failures among the relegated candidates in each subject of the Final Examination was as follows:—

A. Design	32
B. Construction —	
(1) Foundations, Walls, Roofs, &c.	27
(2) Iron and Steel	35
C. Hygiene	31
D. Properties and Uses of Building Materials	11
E. The Ordinary Practice of Architecture	20
F. The Thesis	2

The Final Examination: Distinction in Thesis.

Every candidate for the Final Examination is required to submit among his Testimonies of Study a thesis showing advanced and individual work in one only of the following subjects:—

(1) *Historical Architecture*—implying as far as possible the direct study of actual historical buildings.

(2) *Science, as applied to Building*—a special study of an application of science to definite problems of building.

(3) *Design including Decoration*—such as a study in Civic Monumental, Decorative, or other branch of Architectural Design.

The Regulations provide that the subject selected for the thesis must be notified for the approval of the Board of Architectural Education four months before the date of the examination, and the thesis itself must be submitted four weeks before that date. The thesis, which may be either an illustrated essay or a design with a detailed report, is assessed by examiners specially appointed for the purpose, who also examine the candidate orally in his thesis. It is open to candidates to obtain distinction in the advanced work, and a distinguishing mark will be placed against their names in the "Kalendar."

Since this regulation came into force the following candidates have obtained distinction in their theses on the subjects indicated below:

December 1912.

Newton, William Godfrey [*A.*]: "The contribution of Imperial Rome to Architectural Development."

Thoms, William George [*A.*]: Working Drawings of a Factory, with all construction and details fully worked out, stress diagrams and calculations, and a detailed and comprehensive report thereon.

June 1913.

Hill, Joseph [*A.*]: "The Gothic Towers of England."

Nimmo, William Wilson [*A.*]: "The Mediæval Spires of England, their Design and Construction."

December 1913.

Friskin, William Wallace [*A.*]: "The Problem of Reverberation in Buildings."

Gibbs, Harry Beckett Swift [*A.*]: "The Life and Work of James Gibbs, Architect."

Leighton, Henry Birkett [*A.*]: "Electricity and its Application to Buildings."

Paterson, William [*A.*]: "The Growth and Development of the Mediæval House."

June 1914.

Thompson, James Osbert: "Elementary Education and Physical Culture."

A SECOND ATELIER.

THE Beaux-Arts Committee, taking into consideration the fact that the First Atelier now has its full complement of students, and feeling that the success of the First Atelier will be greatly enhanced and the objects of the Committee further promoted by the affording of opportunities for emulation and competition on similar lines, have decided to take immediate steps for the opening of a second Atelier in London.

The Committee are in negotiation for premises, and hope shortly to make some more definite announcement regarding the details of the scheme.

In the meantime those who wish for further information regarding this development should communicate with Mr. Adrian Berrington at the First Atelier, 16 Wells Mews, Oxford Street, W., or with the Honorary Secretary of the Beaux-Arts Committee at 28 Bedford Square, W.C.

COMPETITION NEWS.

ASHTON-UNDER-LYNE.—Four out of the five architects invited to submit competitive plans for the new school for the Education Committee have declined the invitation owing to the unsatisfactory conditions—viz., the decision of the Committee not to appoint a qualified architect to adjudicate and not to bind themselves to accept any of the designs, and the inadequate time, sixteen working days, allowed for preparing designs.

BARNOLDSWICK.—Competitive plans are being invited for the erection of a new Congregational church, to replace the present iron structure in Gisburn Road.

GATESHEAD.—Members and Licentiates of the Royal Institute of British Architects must not, by order of the Council, take part in the New School, Sunderland Road, competition, because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions.

LONDON. Official particulars of the competition for a proposed Shakespeare National Theatre will be found under the heading of "Correspondence."

MIDDLETON.—One hundred and seven designs have been sent in for the new town hall to be built at a cost of £20,000.

OLDHAM.—The Education Committee have decided to invite architects practising in the municipal borough to send in competitive designs for the erection of a new school in Ward Street, and to offer premiums of £15, £10, and £5 for those placed first, second, and third respectively in order of merit.

ILLUSTRATIONS.

EXTENSION OF REFUGE ASSURANCE COMPANY'S OFFICES, MANCHESTER.

WE now illustrate some of the interior work in the extension building of the Refuge Assurance Co.'s offices which has been carried out from the designs of Mr. Paul Waterhouse, M.A., F.R.I.B.A.

CHURCH OF ST. NICHOLAS, BARI.

BARI in Apulia contains not only an interesting Romanesque cathedral, of which we have given views, but also the church of St. Nicholas, of Romanesque date with later alterations to the interior as shown in our illustrations.

KING'S COLLEGE, CAMBRIDGE.

THE drawing by Mr. H. St. John Harrison, made during his tour as *The Architect* travelling student of 1913, shows a characteristic piece of detail of this well-known college.

TRUNCH CHURCH, NORFOLK.

ST. BOTOLPH'S CHURCH, Trunch, is well known for its painted chancel screen, carved and painted canopy over the font, and single hammer beam roof of Perpendicular date. Not only the church, but the Hall at Trunch is worthy of note.

OXFORD COLLEGE SERIES, NO. 145.—CORPUS CHRISTI.

WE now give a view of the cloisters at Corpus Christi College which, it will be seen, are amongst the alterations made during the Renaissance period.

IN connection with the London University School of Architecture the following awards have been made: Carpenters' Company Travelling Studentship, H. Norman Jepson. Evening Design Class Prizes, F. E. Crutchley, R. A. Walter. Additional Prize for Sketching and Measuring, R. A. Walter.

THE Manchester Society of Architects visited Birmingham on Saturday last, and were shown over that city by the local Architectural Association. The new galleries of the Royal Society of Artists in New Street were first visited. The stained-glass windows of the Cathedral by Burne Jones and Morris were next inspected, and afterwards the party proceeded to the Victoria Law Courts. The journey was continued to Aston Hall, one of the city's finest architectural treasures. A number of modern churches all by Birmingham architects were visited, viz.: St. Benedict's, St. Gregory's, St. Oswald's, and St. Agatha's. Afterwards the party proceeded to the Red Lion Hotel, King's Heath, for tea. From thence the party went to Bournville and viewed the group of buildings round the green. On returning to the city the visitors were entertained to dinner at the Queen's Hotel.

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ROYAL ARCHÆOLOGICAL INSTITUTE SUMMER MEETING.—III.

Friday, July 17.

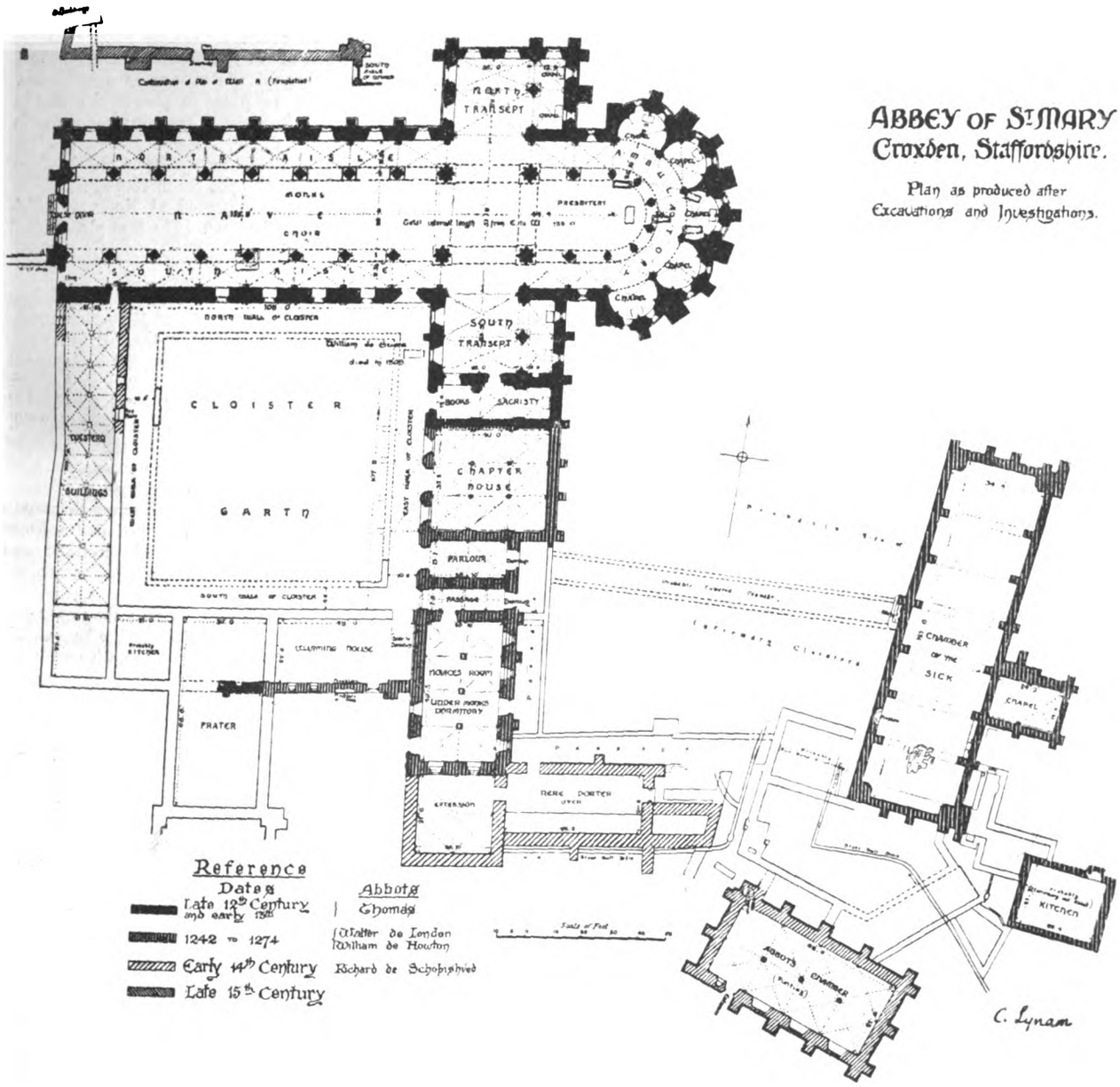
THE headquarters of the Summer Meeting being at so central a town as Derby, the excursions were arranged to include flying visits beyond the borders of the county. For instance, the very first visit was to Wall. Again on Friday, July 17, the railway was used for a quick journey to Staffordshire. At Rocester station the journey was continued in motor-cars to the ruins of

ABBEY OF ST. MARY, CROXDEN.

This site might fairly be regarded as the preserve of Mr. Charles Lynam, F.S.A., who has been familiar with the ruins since 1850, who undertook extensive excavations at the request of the North Staffordshire Field Club, and who has written an elaborate monograph on the subject. Before his excavations were commenced the very considerable extent of the monastic buildings was unknown.

A Cistercian abbey was founded in 1176 at a place called "Chotes" or "Chotene" on a site given by Betram de Verdun for the health of his soul, and was removed to Croxden in 1179. An admirable and beautiful site was selected; it lies in a fertile valley, once known as St. Mary's Vale, and within half a mile of excellent quarries, from which all the stone was obtained. Probably one of the first steps was to surround the 70 acres with a wall 10 feet high and 4 feet thick (of which portions still survive), in order to make doubly sure of the seclusion of the inmates. A streamlet, flowing from west to east, was pressed into service, and made to refresh the meadows, turn the water-wheel at the corn-mill, feed the extensive fish ponds, provide water for the house, and, eventually, carry off the sewage.

It must be understood that the plan we give above, by permission of Mr. Lynam and the Royal Archæological Institute, represents a very great deal more than what is now to be seen above ground. The remains are incorporated with farm buildings, and a wide public road has been driven diagonally across the church, completely cutting off the north transept and wonderful east end from the main fabric. Much interesting work, however, remains. The principal portions of the church still standing are the west front, lighted by three tall and deeply-splayed thirteenth-century windows, and having a deeply recessed west doorway; the south wall of the nave; the south transept, with a door to the south leading into the vestry; and a fragment of one of the radiating chapels of the eastern apse. Excavations revealed the foundations of most of the church, including the five apsidal chapels which formed its eastern termination, with their ambulatory, chevet, and presbytery, and the north transept, with its two eastern chapels. Mr. Lynam claims that there is no parallel to the west end in monastic architecture anywhere, and it will be generally agreed that "it is a noble feature of the once exceptionally magnificent church." The entire church seems to have been carried out by the two Abbots Thomas. The fifth and sixth Abbots—viz. Walter de London and William de Howton—are associated with a great part of the conventual buildings, including the gates of the monastery, the chapter house, the frater, the kitchen and dorter of the lay brothers, and the infirmary with its cloisters. During the first half of the fourteenth century the inmates met with divers troubles.



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On the Vigil of Easter 1313 the great bell became broken. Master Michael, of Lichfield, came to cast another, which was a failure; but he managed to complete it by All Saints. In 1330 a great storm unroofed the buildings of the abbey. Records remain of the expensive works of repair. Forty years later much damage was again wrought by a tempest.

The conventual buildings, as will be seen from the plan, lie to the south: a farmyard occupies the site of the cloister. Fragments of the western range still survive; and on the east are well-preserved remains of the vestry, chapter house, dorter subvaults, and reredorter. On the south are some fragments of the kitchen and frater. In the field to the south-east stood the fourteenth-century abbot's house, of which a fine window is left and traces of a vice leading to the upper storey.

Mr. Lynam, in his monograph, says: "No one could survey these ruins and not feel that in the work they represent there is not something more than a touch of foreign sentiment throughout, nor that its foreign influence comes from France. It may be that the plan of the eastern part of the church alone is enough to establish this conclusion, but the proportion of extreme height is another strong point in this direction; then, again, the negligence of finish, as seen in the work of the nave and aisles, and further the type of certain details, such as the very lofty lancet windows, and the ornamentation of the doorways to the parlour and from the monks' cloister, help to emphasise the fact of French influence. Indeed, its absence could hardly be possible, seeing that the abbey was actually founded for Aulnay, near to Bayeux."

A welcome was extended to the party by Mr. J. R. B. Masefield, President of the North Staffordshire Field Club, who explained that in 1900 the Club were permitted by Lord Macclesfield, the owner of the property, to carry out such work as was required to prevent the stones from falling down. About £300 was raised—mostly from local magnates, except for a grant of £100 from the Staffordshire County Council. The excavation, &c., was done under the guidance of Mr. Lynam. Two or three years ago Lord Macclesfield decided to sell the estate of 3,000 acres. Two lots, one of which included the site of the ruins, found no purchaser at the time. But they have since passed, we believe, into the possession of a descendant of the De Verduns, who founded the abbey. It is hoped the new owner will divert the main road from the site of the church, so as to allow of a completion of the excavations.

A motor car run, scheduled to take forty minutes, but which proved longer owing to the driver losing his way, brought the party to

Wootton Lodge.

Whether or not there stood a mediæval house on this magnificent site is not known. It would certainly be a desirable one at any period, for it occupies a triangular-shaped cliff in a valley beneath the Weaver Hills and is accessible only upon the east side. But the present late Elizabethan building, which must not be confused with Wootton Hall, was obviously designed with a view rather to impressing friends than overawing enemies. It was erected soon after 1611 by a Sir Richard Fleetwood, whose shield is carved above the entrance porch, and who came into possession of the estate in 1605. It is approached through a square forecourt with two lodges at the angles. Unusually lofty in its three storeys above the basement the east front gains still more in height by the big flight of well-proportioned steps. The imposing elevation, which has been wrongly attributed to Inigo Jones, displays the customary symmetry of an early Renaissance house. The porch entrance is flanked by two half-octagon bay windows continued, and this is not usual, though all three storeys and stopping at the roof cornice level. Single bow windows, also occupying the full height, project from the north and south fronts and are most effective. A very strong resemblance is to be found to Barlborough Hall (1583-4) in the north-east corner of the county, and Wootton Lodge may be regarded as a late example of belated Gothic with Renaissance detail. In 1643 the house was captured by the Parliamentary forces, then abandoned and allowed to fall into more and more disrepair until its purchase by a Worcestershire man towards the end of the reign of William III. Fortunately the subsequent external alterations were few, being little more than the provision of a classical balustraded parapet, the handsome stairway to the main door, and the repair of the forecourt buildings. But the interior of the house, which probably was like that of Montacute, was transformed. The present commonplace entrance hall with dining-room opening out of it on the north and drawing-room on the south, together with the staircase at the back of the hall, belong to this work. New elements were thus introduced into a plan which originally was of the typical late Elizabethan type with a great hall at the north end of the first floor and the great chamber on the floor above. Some of the principal rooms contain handsome panellling of the time of William and Mary.

The rather austere design of the principal front and also of the approach acts as a foil to the gardens at the sides and back where the hand of Nature and of man have combined to provide a setting of irresistible beauty. Far down at the foot of the rock, which would make the house so strategically important, is a large lake surrounded by trees. Wootton Lodge is happy in its present occupants, for they obviously appreciate it to the full. It was, we believe, of the adjoining estate that Rousseau wrote, *à propos* of the snow and wind, "In spite of all I would rather live in a hole of one of the rabbits of this warren than in the finest rooms in London."

The run from Wootton to Ellastone for luncheon took the party through George Eliot country. George Eliot's father, Robert Evans, was the son of an Ellastone wheelwright and spent his early life working in the village as a carpenter. The novelist drew freely on the place to give local colour in "Adam Bede." Ellastone becomes Hayslope; her father is the original of Adam; her uncle, Samuel Evans, was the original of Seth Bede; and the Bromley Arms Hotel (where the party lunched) is pictured as the Donnithorne Arms.

This literary flavour was continued at Norbury, which George Eliot introduces as Norbourne. The first place visited here was

Norbury Old Hall.

Derbyshire can boast an unusual number of high-born families which at the time of the so-called Reformation were willing to sacrifice their goods and even their lives for conscience sake. Two such families were the Fitzherberts and the Eyres. The former were long established at Norbury. About the year 1300 Sir Henry Fitzherbert, the fifth Lord of Norbury, and a county representative in Parliament in 1298, rebuilt the house on the usual plan of an inner and outer quadrangle. Of this little remains. The outer court, comprising the stables, lodgings, and offices, was pulled down thirty years ago just before the Royal Archæological Institute last visited the place. The shell of the great hall and some upper rooms are all that is left of the main domestic block, and these have been incorporated into an unpretentious residence of red brick. The hall, though of no great height, was divided into two by a rough wooden floor; the upper part, showing the tie-beams, can be entered from the house. This fate was a not uncommon one in the sixteenth century, by which time the old hall life of the time when it served both as a living room and a sleeping room had completely disappeared, and the less hardy proprietors had come to the conclusion that a great hall was uncomfortable, difficult to heat, and draughty. The hall was lighted by three windows, now blocked, and the principal entrance was at the south end. The west doorway was inserted during the middle of the fifteenth century, but the door itself is of earlier date. The house was much altered by Sir Anthony Fitzherbert (1470-1538), the well-known judge of Henry VIII.'s time, who was the last of the family to be permitted to live here in peace. An upper room, known as "Sir Anthony's study," is panelled in oak with texts from the Vulgate in black letters on the panels. The judge's eldest son spent thirty years in prison as a contumacious recusant. A room on the ground floor is lined with panelling of a remarkable criss-cross pattern. Various windows contain heraldic glass showing the alliances of the Fitzherberts inserted by Sir Anthony's son. In the window on the staircase are some fifteenth century roundels with paintings symbolical of the months—at one time a very fashionable subject with German and other artists. The Norbury Fitzherberts lived here until 1649, when the estates passed to the Fitzherberts of Swinnerton, in Staffordshire, who were Protestants, and seemed to have prospered while the older Catholic branch waned.

A few yards from the house is

Norbury Church.

The original dedication was to St. Barloke or Burlok, abbot, a saint whose identity has only been guessed at. The present and erroneous dedication is to Our Lady. The earliest portions of this interesting church probably belong to the twelfth century, but how much, or rather how little, remains is difficult to tell owing to subsequent changes. The proof of a Norman predecessor is seen in just a few details. Indeed, there was a still earlier church, for Sir William Hope, in making excavations a few years ago, found slight Saxon

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remains. The Norman church, he considered, probably consisted of an aisleless nave and an apse. The rest was added piecemeal, including a north aisle. The present magnificent chancel is only three feet shorter than the nave and dates from the fourteenth century. Early in the following century a low tower, the lower storey of which forms a porch, was built against the middle of the south side of the nave, an unusual position which may have been due either to the restricted space between the west end and the steep cliff above the Dove, or to the existence of a covered gallery between the manor house and the lord of the manor's loft at the west end of the nave. In the second half of the fifteenth century the nave was rebuilt, a clerestory added, the roofs of nave and chancel reduced to one pitch, and the chancel arch removed. A chapel east of the tower was added on the south side and the north aisle was built.

Sir William Hope, in describing the church to the party, said that the most important questions about the church related to the precise date of the glass in the chancel, concerning which there was considerable controversy, and of the chancel itself. The eight side windows contain most of their original grisaille glass and the east window incorporates much fifteenth century glass which has been removed from the north aisle to replace, it is said, what had been removed by a Vandal incumbent of a century ago. Seemingly there was an intention of vaulting the chancel; if it was ever realised, the masonry roof was replaced by the present one at the very end of the fifteenth century by Henry Prince, rector 1466-1500. In arriving at the date of the chancel work, said Sir William Hope, various blunders have been made by antiquaries, including Micklethwaite and Dr. Cox. One positive piece of evidence has been overlooked, viz., that found in the considerable amount of heraldry in the glass. No one had ventured to assert that it was not the original glass. Some of the shields of arms are difficult to identify, while others can be identified quite easily. Everything brought one back to quite an early period. One of the lights showed the arms of a King of England, viz., three gold leopards on a red ground. The last King of England who bore those arms was Edward II. Another shield showed the arms of Edward II.'s wife—the notorious Isobel. The Fitzherberts appear twice—once for the lord of the manor and once for the Fitzherbert who was then rector. Everything pointed to the glass dating between 1320 and 1327. This date is further confirmed by the tracery.

Within the church is a great deal of more than ordinary interest. In the south-east chapel are pieces from the shafts of two beautiful Saxon crosses with a figure panel and interlaced ornament which were found built into one of the buttresses, also figure glass of the fifteenth century; its south window shows St. Burlok. The earliest Fitzherbert monument, an effigy of a knight in mail and surcoat, is believed to be of Sir Henry Fitzherbert who died early in the fourteenth century; it divides the south chapel from the nave. There are some beautiful examples of local alabaster work in the table tombs and slabs. Perhaps the two finest are those of Nicholas (died 1473) and his son Ralph (died 1483). Sir William Hope remarked that if they had been in France one at least would have been removed to the Trocadero Museum. The large brass slab in the chancel to the famous lawyer Sir Anthony Fitzherbert is a palimpsest.

Mr. Aymer Vallance considers the once fine rood screen has been "cheaply and very badly restored. The original portions consist of the misused fenestration tracery." Upon some of them are traces of scarlet colour.

The next visit was to

ASHBOURNE.

Here tea was taken by invitation of the Vicar (the Rev. Canon Morris) and the Churchwardens at the Ashbourne Hall Hotel. This is historic ground. From the reign of Stephen till 1683 there stood on this site the house of the Cokayne family. In the latter year it was sold to the Boothby family who continued to live there until last century. When the Young Pretender repassed through the village on his retreat from Derby, thirteen miles off, Ashbourne Hall was commandeered for the Prince and his officers, Sir Brooke and Lady Boothby being driven out. The names of the occupants of the different rooms were found chalked upon the doors, the chalk was afterwards painted over with white paint, and some of the names, together with the bed in which Prince Charlie slept, were to be seen there many years afterwards. Ashbourne had a constant visitor of a very different type in Dr. Johnson, whose intimate friend, the Rev. Dr. Taylor, a typical squarson, lived at "The Mansion." Opposite this big house stands the sixteenth century Grammar School, and close to it are the Almshouses for ten poor men and ten poor women. Not far up the street is the curious sign of the "Green Man and Black's Head," the then proprietress of which presented Boswell with an engraving of the sign of the house with a request that he would "name this house to his extensive acquaintance." The town consists roughly of one long street at the foot of which is

ASHBOURNE CHURCH.

This is considered to be one of the most interesting and imposing churches in the county. It is certainly not unworthy of its title, "The Pride of the Peak." The length is 176 feet, the central tower and spire rise 212 feet from ground level, there are broad transepts with eastern aisles, many most interesting tombs, and famous bells. George Eliot described it as "the finest mere parish church in the kingdom"; Boswell as "large and luminous."

The church was given by William Rufus to the Bishop of Lincoln in 1093 and appropriated to the Dean and Chapter; it never became a separate prebend. The earliest part is the extremely beautiful thirteenth century chancel; the transepts with their aisles are substantially of the same date. The present tower and spire, with the arches that support them, are wholly of the fourteenth century, but appear to rest on earlier foundations. The nave offers some peculiar features. Its west doorway dates from the latter part of the thirteenth century, but both nave and south aisle were rebuilt in the following century and considerably widened, the north wall of the nave being removed further north so that the north-west pier and buttress of the tower fall wholly within the church. This may have led to the fall of the tower, as its reconstruction evidently followed that of the nave. Presumably the reason why no north aisle was added was the fact that the site slopes rapidly on that side. The space gained by pushing the nave wall a few feet outwards was necessary for processions round the church which could enter the north transept by the opening between the north wall and the north-west pier of the tower. The west doorway would have come in the middle of the original end wall, at present it is too much to the south; the later window above it, on the other hand, does come in the middle of it. Fifteenth century work is represented by the clerestories of the nave, the insertion of the east window (now filled with stained glass by Kemp) and a large elaborate window in the end wall of the south transept, and the screen work of the transepts.

In the north transept is a remarkable series of tombs of the Cokaynes, the earliest belonging to 1372 and the latest to 1592, which, with one exception, includes all the heads of the family from father to son for eight generations. Of much more general repute, perhaps, is the monument by Thomas Banks, R.A., "To Penelope, only child of Sir Brooke and Dame Susanna Boothby, born April 11th, 1785, died March 13, 1791. She was in form and intellect most exquisite. The unfortunate Parents ventured their all on this frail Bark, and the wreck was total." This pathetic monument gave inspiration to Chantrey for his still better known "Sleeping Children" in Lichfield Cathedral.

Ashbourne's church tower has been causing very grave anxiety. Cracks, similar to those dealt with twenty years ago, appeared in the south and east walls and in the spiral stair at the beginning of last year. The tower was at once shored up, the beautiful bells silenced, and measures taken to raise a fund of £5,000. Under the joint direction of Sir Thomas Jackson, Bt., R.A., and Sir Francis Fox, the work of repair has been carried out at a cost of over £5,500. First the defective parts of the wall were grouted under pressure. Next all the cracked and crushed masonry was cut out and replaced by new Stanton stone. Then a gun-metal girdle was fixed round the base of the spire, with a branch to hold the turret, and with two tie-rods each way across. A chain of interlocking stones has been laid on the floor of the gallery round the tower, strongly united and bound together at the four corners by gun-metal ties. Finally, the four arches between the piers on which the tower rests have been strengthened by tie rods firmly screwed up. It is hoped that the result of all this will be to bring the load vertically down on the four piers and relieve the abutting walls from all pressure. A considerable amount of grouting was done in other parts of the building. The church authorities have now the satisfaction of Sir Francis Fox's verdict that the whole fabric is ten times as strong as ever it was.

Long before the interest of the church had been exhausted and the points raised by Mr. A. Hamilton Thompson, M.A.,

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F.S.A., in his account had been verified, the whistle sounded for the party to resume their motor journey to Derby.

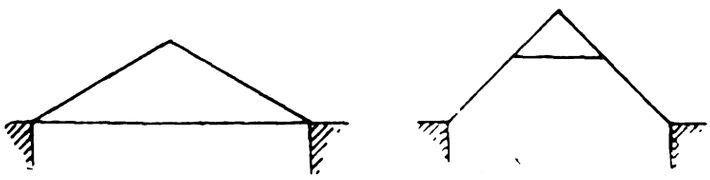
In the evening a paper was read by Mr. Harold Brakspear, F.S.A., on Bardney Abbey, Lincolnshire.

(To be continued.)

EVOLUTION OF THE HAMMER-BEAM ROOF.

THE report of Mr. F. Baines (one of the principal architects in H.M. Office of Works) on Westminster Hall Roof, which has been presented in the form of a Blue Book [Cd. 7436] to Parliament, is an unusually comprehensive document. For the better understanding of the subject Mr. Baines included the following succinct history of the development of the hammer-beam truss:—

The most simple type of sloping roof is that where the rafters are pitched and meet in the centre, the roof boarding being laid immediately above them. In such a case there are no trusses in the ordinary sense of the word, the common rafters themselves making up the necessary constructional members. Such a type of roof is now in use in Scotland to-day, every third or fourth pair of common rafters, however, being tied together by a collar. The chief defect of this form of construction is that, should the span be of any size, the developed thrusts on the walls are considerable, necessitating a greater thickness than is economical. To prevent this tendency to spread, ties were introduced at each rafter or at intervals, either by means of collars (horizontal timbers inserted between the common rafters some distance up from the wall-head) or by means of ties at the feet of the common rafters (sketch *a*).



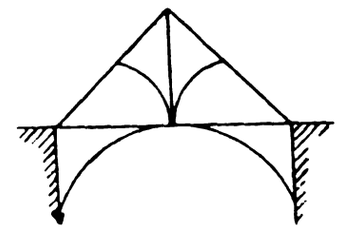
(*a*).

These two types of roof—namely, the tie-beam and the collar-beam type—are fundamentally different in character, embodying two distinct principles in construction. In all spans of any magnitude, the roof formed only of common rafters was unsuitable, and in such a case the loads were concentrated over certain definite points by means of framed trusses, on to which the purlins and ridge were fixed to bridge the space between the trusses and carry the common rafters. This method of roofing allowed greater economy in the construction of the abutments, and considerably greater stability was obtained in the roof.

To consider first the tie-beam roof (sketch *b*). This in its simplest form consists of a triangulated frame (as sketch), which under vertical loading gives a vertical reaction over its supports; the only side thrust induced is that arising from a horizontal force, such as wind pressure on the roof. This simple form of roof was only suitable for small spans, and for larger ones it developed into the well-known king and queen post types, with various curved struts and members added, many of them for ornament. The principal defect of this type is the tie-beam, which tends to deflect under its own weight, and under the load from the posts above it. To overcome this defect, a considerable camber was sometimes given to the tie-beam, and in other cases support was given to it from below by means of struts springing from wall corbels (sketch *c*). The final development of the camber principle was, in effect, to make the tie-beam itself the main rafter, as shown on sketch,* thus necessitating a very flat-pitched roof, which ultimately resulted in bringing the struts some considerable distance down the wall face, and eventually so to enlarge them that they would meet in the centre of the span, as in sketch (sketch *d*). Owing to the difficulty of obtaining and transporting large timbers, the tie-beam roof would, under



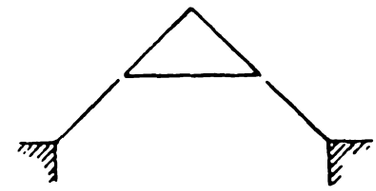
(*c*).



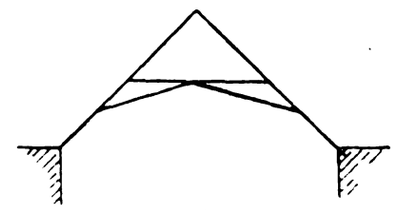
(*d*).

ordinary circumstances, be limited to a span not exceeding 30 feet, and some other type would naturally be utilised for roofs of greater dimensions. In addition, it was felt that, in halls of magnitude and importance, the height was materially affected by the presence of the tie-beam.

To consider, now, the collar-beam type of roof (sketch *e*). This consists of three portions (as sketch), an upper triangulated frame, with two raking struts below that support it. It is quite obvious that this in itself is not a good type of truss, for even with simple vertical loading there would be a horizontal thrust on the supports, and it would depend upon the stiffness and stability of the latter whether the collar beam was in tension or compression. A bending

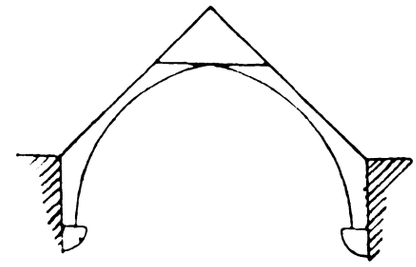


(*e*).



(*f*).

moment is also developed on the rafter at its junction with the collar, which force in this type of roof must be resisted solely by the strength of the rafter itself. This, as can be seen, is weakest at that point, through the necessity for cutting mortices in it for the tenons of the collar beam (sketch *f*). Such a weakening was recognised, and was counteracted by the insertion of a rib, either straight or



(*g*).

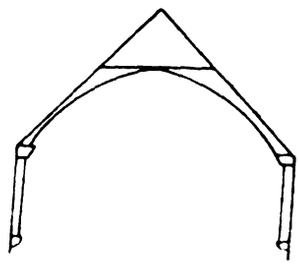
curved, between the collar and the rafter, as shown in sketch, which latter developed into the curved rib carried down to the face of the wall, and on to a corbel (sketch *g*).

* Examples where the tie-beam serves as the principal rafter exist at Gresford Church, Haverfordwest Church, St. Mary's Church, Shrewsbury; Lavenham Church, Long Melford, Raunds Church, Rushden Church. In the following the roofs appear to be in a transition stage:—Kaddington Church, Sparsholt Church, and St. Martin's, Leicester.

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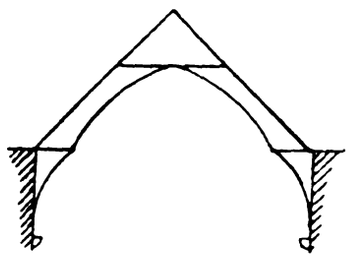
Thus the horizontal thrust was distributed over a greater wall area. The collar was sometimes placed quite high up in the roof, in other cases it was omitted altogether, thus reverting to the trussed-rafter type.

In order to avoid an ugly curve, and in the attempt to economise material, in the curved rib, the latter member was sometimes stopped short of the lower corbel, either by the insertion of a vertical wall post from the corbel upward, or by projecting forward the sole piece (on which the principal rafter rested) to receive the rib (sketches *h*



(*h*).

and *j*). With this latter form we obtain what is commonly known as a hammer-beam truss, and the name hammer-beam is applied because the sole piece of the principal rafter has been projected forward beyond the line of the wall.



(*j*).

Brandon, in his book on "Open Timber Roofs," and Bond, in "Gothic Architecture," state that no example of a complete hammer-beam truss prior to that of Westminster Hall is known to have existed. Some more modest examples of such trusses must, however, have existed previously, as it is hardly possible that an entirely new constructional principle embodying so many special features should be evolved and carried out to such perfection without some earlier examples of such work having led up to it. It is, however, highly probable that a roof of the magnitude of Westminster Hall, with its enormous span and great height, would require some new development and many new features to solve the difficulties presented by its erection. The foregoing brief notes on the tie-beam and collar-beam types of roof have been given in the attempt to show that there is in them no particular feature which could be safely developed into the great design adopted for Westminster Hall roof.

It would be of great interest to reconstruct, if possible, the problem presented by the roof to its designer, and I propose to attempt this in the following notes.

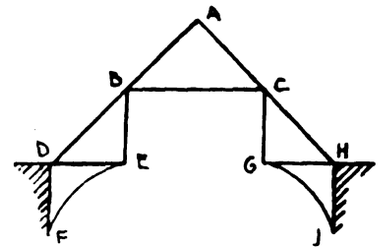
The Hall, we learn, was often used by Richard II., and it may be that the early roof of the "Rufus Hall" had become so decayed that it required renewing. The external walls must have been in a fairly good condition, as they were retained without much alteration in the lower portions, while in the upper the Norman windows and arcading were blocked up and new windows cut through. Beyond this there would not appear to have been any pulling down or renovation on an extensive scale. The wall heads, we know, were raised 2 feet, and the aisles of William Rufus's Hall were abolished, so that the proposed new roof had to span the space between the external walls, a distance of from 68 to 69 feet, the walls of the Hall not being quite parallel.

It is impossible to ascertain whether this splendid and grandiose conception of re-roofing the Hall was originated by the supposed designer, Hugh Herland, but the magnificence of the idea and its execution are almost without parallel. The problem being in this form, Hugh Herland had to arrive at a solution of it, and, referring back to examples in his knowledge and to past experience, he would doubtless see that there were the three previously mentioned types of roof from which he could choose—namely, the tie beam, collar beam, and trussed rafter types, with perhaps a simpler hammer-beam type.

In all these types the difficulty would be the improbability, if not the impossibility, of obtaining timbers of sufficient length and section for the tie beams, and also for the great length of the principal rafters. These members would have to be in one length, and, even should such timbers have been obtainable, the cost of transport, the impracticability of moving such logs on the site (as the Hall was closely surrounded by other buildings at the time), and the labour involved in hoisting and fixing would have been prohibitive. A tie beam, such as would have been necessary for this great span, must in itself have had to weigh approximately twelve tons.

The deciding point of the problem would thus appear to have been the length of the timbers that could be obtained, and in the large sections required this would have been limited to between 30 and 40 feet. Because of this difficulty, Herland would therefore appear to have evolved another type of truss, remarkable for its great beauty and simplicity of design.

His roof was divided into three separate and distinct portions, each a framed structure in itself, as shown in the sketch (sketch *k*). To an upper triangulated frame



(*k*).

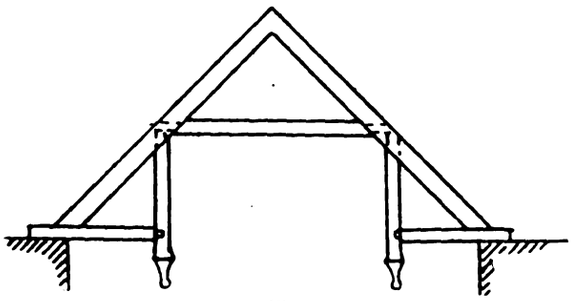
ABC, supported upon two braced structures BDEF and CGHI, other members were added, such as the great arched rib, whose utility and function have been and will be further carefully examined, but these three structures are the essential parts of the roof that differentiate it from any of the previously mentioned types.

It is usually stated that the hammer-beam roof was evolved from the trussed rafter type, that it is merely a logical development of the sole piece and the short strut at the foot of the rafter, or that it is simply a tie-beam roof with a part of the tie cut away. There would appear, however, to be very little ground for these assumptions, and a juster conception of the type of Westminster Hall roof should lead us to acknowledge that the designer evolved his truss solely in relation to the problems and difficulties which he had to overcome. The conception of this roof is so splendid and so structurally relative to all the ascertained conditions that I am led to believe that it must have been largely an original conception on the part of the designer, who did not, and, indeed, could not, follow any previously known type.

I wish to emphasise this point—namely, that the difference between Westminster Hall roof and others of similar type lies in its constructional division into the three distinct portions just described. This view is thoroughly borne out by an examination of other well-known roofs, and it is interesting to compare it with the very beautiful but much smaller roof of Eltham Palace Hall, which was built some hundred years later, and upon which we are now working. The roof at Eltham is of the ordinary hammer-beam type, with arched ribs, pendants, and collar-beam, similar to Westminster Hall in appearance, although on a much smaller scale. When the constructive details are carefully examined, however, the essential points of difference clearly appear. The chief of them is that the principal rafters are not in two members, but run in one length from the wall-plates to the ridge. The collar beams intersect these principals about half-way, and are jointed to it by means of mortices and double tenons. Immediately under this joint is the hammer-post, which is also double-tenoned into the principal rafters (see sketch), thus acting as a further source of weakness at a point in the principal rafter where the greatest strength is required. To make this weakness worse, the hammer-post is not supported upon the hammer-beam, but continues down past it, terminating in a heavy

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pendant, while the beam is secured to it by a tenon joint (sketch *l*).



(*l*).

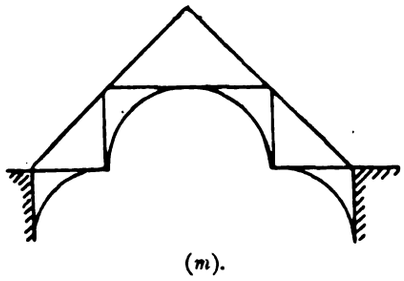
The roof is in reality an elaborate collar-beam type of roof with the arched ribs, &c., superimposed as ornaments. The result of my examination of this roof last year has shown me that it has failed exactly as a collar-beam type of roof would be expected to fail—namely, by thrusting out the walls and by the fracturing of the principal rafters at the junction of the collar beam. Thus, in the Eltham Palace roof, many of the principals have sprung outwards at their feet a distance of 8 inches in the short length of the timber between the collar beam and the wall head.

These considerations lead me to insist that there are scarcely any main constructional points of similarity between the Eltham Palace hammer-beam roof and that of Westminster Hall, while the relative values of their constructions may be very justly estimated by comparing the great difference in their deformations. In Westminster Hall, in spite of the enormous weakening of the roof by the ravages of the Xestobium tessellatum, and also in spite of the vast span, these deformations and distortions are relatively small, but at Eltham they are very large. Throughout the whole roof in the latter case the dropping of the hammer-beams, the distortion of the hammer-posts, and the springing of the principal rafters are considerable. This is to some extent due to the fact that at Eltham the walls have been thrust outwards, while at Westminster Hall the walls appear to have withstood the roof thrust.

The Functions of the Various Members in a Hammer-Beam Roof.

I now propose to give a description of the function of the various members that go to make up the hammer-beam roof, assuming that it is a properly framed structure such as would be the case if it were built of steel.

Taking the ordinary form of hammer-beam trusses, and neglecting the special features of Westminster Hall roof for the present, it would seem to consist of a series of triangular frames, in the members of which the stresses change their character according to the condition of loading, and the reactions that occur (sketch *m*). The first



(*m*).

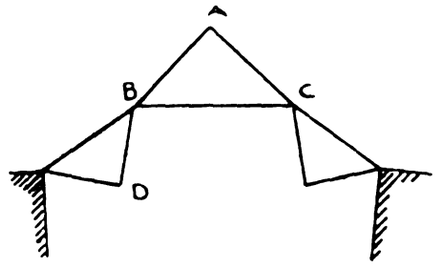
condition that should be considered is the strength of the abutments as against a movement of overturning. The question of the strength of the abutments will make a vast difference both to the extent and the nature of the stresses on the various members. Two extreme cases may be considered:—

(*a*) Where the walls are fully capable of resisting the horizontal thrust that may come upon them.

(*b*) Where they are capable of sustaining a vertical load only and have insufficient stability to resist a horizontal thrust.

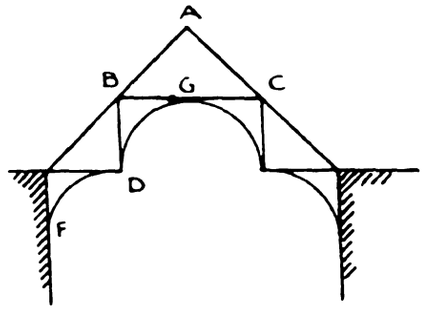
It will be seen that there may well be an infinite number of intermediate cases between these two, where the walls would resist safely one-tenth, one-fourth, one-third, or indeed any fraction of the horizontal thrust.

Taking the latter of the two extreme cases, it will be seen that if the walls are unable to withstand the horizontal thrust a tendency will develop for bending to take place at points B and C on sketch—i.e., at the junction between the foot of the upper principal and the main collar beam (sketch *n*).



(*n*).

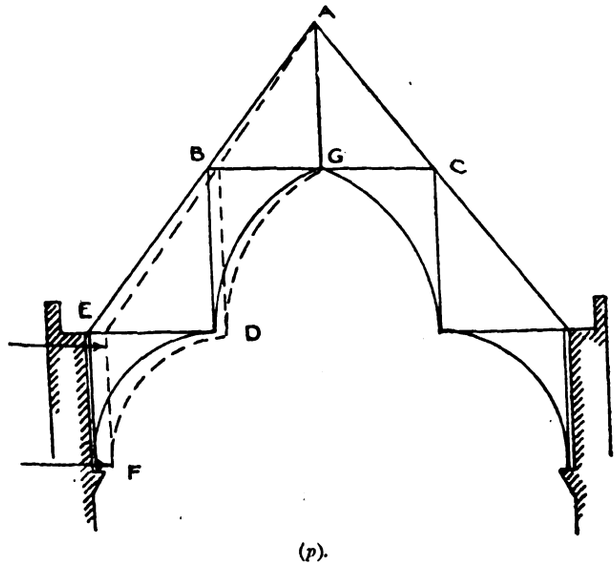
For this reason and to counteract such a tendency, a curved brace DG is designed between the free ends of the hammer-beam (the foot of the hammer-post) and the centre of the main collar beam (sketch *o*). The effectivity of this



(*o*).

member as a tie depends mainly therefore upon the strength of its joints with the hammer-beam and the main collar at points D and G.

The main collar BC, as well as the curved strut DG, will also be in tension. The curved strut DF between the underside of the hammer-beam and the corbel is not in this case strictly necessary, for its only use is to communicate a thrust from the hammer-beam on to the wall, a function which in the present hypothetical instance is ruled out. If, however, the walls were designed so as to resist the whole of the horizontal thrust, the curved strut between the hammer-beam and the wall DF in the diagram will then be brought into action, while the main collar beam BC and the upper curved strut DG will become sub-



(*p*).

jected to a compressive instead of a tensile stress, and the principal rafter will also be in tension. This could be made more obvious by means of a stress diagram, but it can be understood that if the resistance of the walls is

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imagined (as shown in sketch) to be an active force tending to bring the timbers closer together as shown by the dotted lines, the stress will be as described (sketch *p*). As a horizontal thrust would be communicated to the wall by the curved strut DF, it will be seen that the lower its bottom end is placed the greater is the stability of the wall, inasmuch as a larger mass of the wall is available to resist the thrust.

PRIVATE ARCHITECTS *v.* PUBLIC OFFICIALS.

THE controversy which for weeks past has agitated the Holborn Borough Council, as to whether or not their borough surveyor should be permitted to prepare designs for a block of working-class dwellings to be erected in the borough, has at last been settled. The Council last week confirmed the original recommendation of the Housing of the Working Classes Committee, and sanctioned the appointment of the surveyor, Mr. Spurrell, as architect in respect of the buildings in question.

The work involved is not large, and in any case quite unpretentious, but the far-reaching importance of the decision to the architectural profession, as constituting a precedent which other local authorities may feel justified in following, will at once be manifest.

The Joint Committee of the Housing and Works Committees, specially deputed to consider the point of professional etiquette which had arisen, reported that, subject to certain modifications, the plans of the surveyor had been approved, and he had been instructed to at once proceed with the preparation of the working drawings and specification.

Councillor C. Fitzroy Doll, a prominent London architect, who has been twice Mayor of the borough, again protested against the course proposed, and moved the reference back of the whole matter. He asked that the memorial of the R.I.B.A. and kindred architectural societies throughout the country, objecting to the precise practice which the committee was recommending, should be read to the Council. "I do not think," declared Mr. Doll, "that this great Council in the centre of London should be held up to ridicule in the Press, as it certainly will be if this thing is carried through in the manner proposed." Continuing, Mr. Doll referred to the enormous number of architects practising in the borough, who were rightly incensed at the behaviour of the Council in employing their municipal officer to carry out the design of buildings. If the committee persisted in their recommendation, a delegation of architects would attend to protest against what he regarded as an insult to the architectural profession.

Councillor Hurst asked what fee would be paid to the borough surveyor if he were appointed. When they had a body of professional gentlemen whose business it was to design buildings, was it not better that an outside architect should be consulted?

The Mayor stated that the borough surveyor would receive no additional remuneration unless the Council should think fit later to award him something as a recompense for the work he had done. (Cries of "Oh.")

At this juncture the deputy town clerk read the main provisions of the R.I.B.A. memorial.

Alderman Dibdin thought it was too late now to throw the whole thing back and say that because they could not have the hall-mark of the architectural profession on the work the proposal should be negatived. He believed no member of the Council could have the slightest doubt that the plans of the surveyor were excellent.

Councillor Hazell said he was aware that certain architects on the Council objected to architect's work being done by a person who was not a professional architect, but they had approved the drawings in this particular instance. (Cries of "No.") To now abandon the surveyor's drawings would be an insult which no officer should submit to, and if that course were taken he would do well to resign his appointment altogether. Their duty was not to find work for any professional person in the borough, but to do the best they could for the ratepayers as a whole.

Alderman Porter, one of the architectural members of the Council, said that if he had been a member of the Housing Committee when the matter was first mooted he would have raised the point of the propriety of appointing the surveyor. When he became a member of the committee he agreed that the matter had proceeded too far to be altered. Nevertheless, in his opinion it was a pity that such a course had been taken.

Councillor Motion said that in his own particular walk of life the surveyor was no doubt a very able man, but "I say," continued the Councillor, "that he is not capable of preparing these plans and carrying out the work, and it is a scandal in this borough that a public official should neglect his ordinary duties to take on extra work which we should have other people to do."

Alderman Max Clarke, another architect, pointed out that Councillor Hazell was in error in stating that the plans had the approval of the architectural members of the committee. For himself, he had expressed no opinion—good, bad, or indifferent.

Councillor the Rev. W. H. Davies, chairman of the Special Committee, said he had been assured there was nothing contrary to true architecture in the plans, or, at any rate, to safe building. The committee were not unconscious of the difficulty of the position occupied by architectural members of the committee, and he desired that the outside world should not invest those gentlemen with responsibility in the matter which did not belong to them. They reluctantly, but also willingly—if he might so express it—gave all the help they could.

The motion for the reference back of the committee's recommendations was, on a show of hands, defeated, and, as above stated, the appointment of the surveyor was confirmed.

[A report of the initial stages of the dispute appeared in our issue of June 5.—ED.]

ARBITRATORS AS WITNESSES.

IN the Divisional Court, before Mr. Justice Horridge and Mr. Justice Lush, in the case of Macdonald, Deakin & Jones *ex parte* the Trustee there was an appeal by the Trustee in the bankruptcy of Messrs. Macdonald, Deakin & Jones against an order of Judge Graham that the engineer under a contract between the Corporation of Burnley and the bankrupt contractors should not be ordered to be examined by the Trustee under Section 27 of the Bankruptcy Act, 1883.

The section of the Act referred to provides that "any person known or suspected to have in his possession any of the estate or effects belonging to the debtor, or supposed to be indebted to the debtor, or any person whom it may deem capable of giving information respecting the debtor, his dealings or property," may be summoned by the Registrar to be examined by the Trustee in Bankruptcy.

The Judge of the County Court had refused to make the order for the examination of the engineer under the contract on the ground that he could not furnish any facts to the Trustee that were not already known to the contractors, and it was further contended on behalf of the engineer that as he was the arbitrator under the contract he should not be subjected to such examination.

Mr. C. Atkinson, K.C., and Mr. E. J. Rimmer appeared for the appellants, and Mr. Langdon, K.C., and Mr. Hanson for the respondents.

Mr. Atkinson said that the decision of the County Court Judge was clearly wrong, because the object of the section was to enable the Trustee to obtain facts from the witness, about which the information given by the bankrupts might be either incorrect or unreliable.

He was stopped by the Court.

Mr. Langdon, K.C., said that he could not support the ground of the decision of the County Court Judge, but he urged strongly that as the engineer had under certain matters in relation to the contract an absolute discretion, and as all other matters must be referred to him as arbitrator his capacity under the contract was purely judicial, and he ought not therefore to be called upon to answer questions relating to these matters.

The Court allowed the appeal and ordered that the engineer should attend for examination.

Mr. Justice Horridge said that the grounds of the decision of the County Court Judge were clearly wrong, as otherwise examinations under the section would be abortive.

Mr. Langdon had, however, raised a more formidable point, and if he thought that the examination would necessitate the engineer giving a decision upon matters which would afterwards come before him as arbitrator, he would not have made the order. He was, however, not satisfied that there were not matters upon which it was proper that the Trustee should have information which did not require him in answering to anticipate his decision as arbitrator. In this

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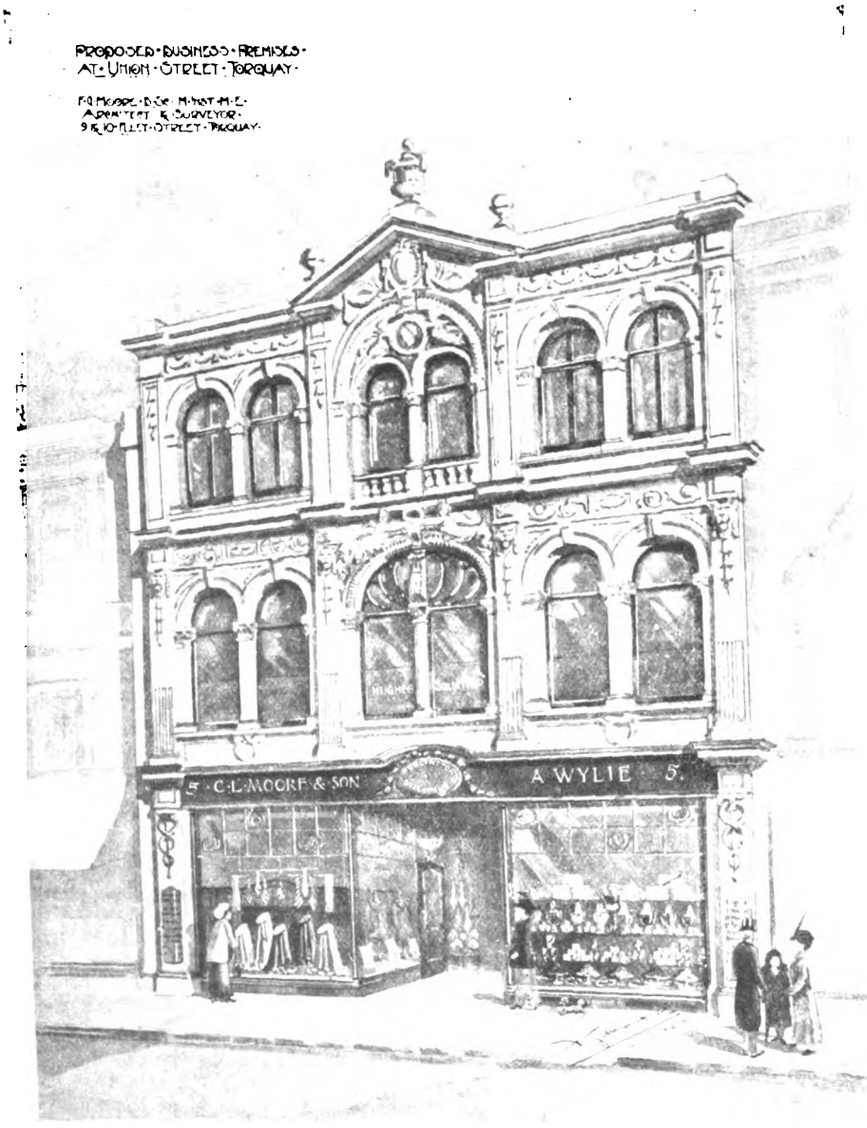
case there had been a forfeiture by the building owners, and the Trustee was entitled to examine the engineer to find out what had been the course of proceedings since the contractors went off the work. There were, in his opinion, also other matters about which the engineer could give the Trustee information which he was entitled to know.

Mr. Justice Lush agreed.

Leave to appeal was given.

BURLINGTON BUILDINGS, TORQUAY.

THIS building was designed many years ago to be used as an arcade, but having no exit to a second street, like many other supposed arcades in this country, it has been a failure. The site is an exceptionally valuable one in the main thoroughfare at Torquay, and the owner instructed the architect, Mr. F. G. Moore, M.A., B.Sc., to design a new façade with modern shopfronts and generally to re-construct the premises in order to increase the commercial value of the property. The design may be said to fall somewhat under the criticism of being "Sculptor's Architecture," yet on account of the original design and outline of the building it was exceedingly difficult to do otherwise. The general contractors are Messrs. Atkin, Maunder & Co., of Paignton, and Messrs. T. L. Harding & Sons, constructional engineers, Torquay, whilst the decorative plaster and artificial stone work is being carried out by Messrs. J. M. Boekbinder & Sons, Ltd., of Kentish Town, London.



THE Bedwas and Machen District Council have appointed their surveyor, Mr. A. S. V. Taylor, to act as architect for the proposed Machen housing scheme. Negotiations are to be opened for the purchase of a site of two acres.

LONDON COUNTY COUNCIL.

NEW LONDON COUNTY HALL.

THE London building trade dispute was responsible for still further discussion at the meeting of the London County Council on Tuesday last, when the Council had under consideration an application by Messrs. Holland & Hannen and Cubitts, Ltd., the contractors for the superstructure of the new County Hall, for payments on account of stone work delivered on the site, but not fixed in position.

One member of the Council, Mr. C. Jesson, said he had received a letter from the contractors' solicitors in consequence of a statement attributed to him, that the contractors had no money to pay the stone work sub-contractors. He wished entirely to deny having made any such statement. All he intended to convey was that the payment of money in such circumstances was tantamount to unfairly assisting the contracting firm in the dispute with their workmen.

It was also stated on behalf of the Labour Bench that if the Council acceded to Messrs. Holland & Hannen's request, a series of similar applications would be made by other contractors, which it would be impossible to refuse.

Mr. Cyril Jackson, the Leader of the Municipal Reform Party, said there was no desire whatever to take sides in the dispute. The present payment was in respect of the quarrying of stone in Cornwall by firms who had no dispute with their men, and receipts would be forthcoming from the County Hall contractors to show that such payments had been duly made. The committee's recommendation to consent to the payment was adopted.

THE COVENT GARDEN ESTATE.

Mr. Stanley Holmes asked the Chairman of the Improvements Committee whether the purchasers of the Covent Garden Estate from the Duke of Bedford had offered to

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sell the whole of the Estate to the Council, and whether the Committee had refused to take any action?

Mr. A. T. Taylor replied that the purchasers had submitted particulars of the Estate, but the Committees concerned had decided not to recommend the Council to purchase any part of the property. Personally, he hoped the owners would see their way to rearrange the property on a better and more convenient plan, doubtless to their own advantage, and certainly that of the neighbourhood.

WHITE LEAD AND ITS DISUSE FOR PAINTING.*

By SIR HENRY TANNER, C.B., I.S.O., F.R.I.B.A. (Fellow).

THE danger of white lead, owing to its poisonous qualities, to the health of the workpeople employed, both in its manufacture and use, has long been under consideration. It has been shown that painters suffer considerably from lead poisoning, but as the Factory Acts do not apply to house painting, only to work done in factories, there are no accurate returns in regard to them, although many cases are reported. Consequently the question of finding some substitute of a non-poisonous character has been discussed for many years.

In France, so long as 130 years ago, zinc oxide was discovered and endeavours made to bring it into use, and also because it was found that it retained its colour under the same conditions which caused white lead to discolour. The usual objections, that zinc oxide dried with difficulty and was deficient in covering power, were made, and although zinc oxide was adopted in 1782 for internal painting in the French Navy, comparatively little progress was made. The subject was revived from time to time, particularly about 1849, when the Minister of Public Works issued a decree prohibiting the use of white lead within its jurisdiction, and this was followed by a report to the Prefect of the Seine, in 1850, that zinc oxide was more economical, more durable than white lead, and that there was ground for directing the city architects to adopt it.

In 1851 a circular was issued by the Minister of the Interior to the same effect, and in 1853 a Commission was appointed to consider whether prohibition should be absolute, both as to the manufacture and use of white lead. This Commission recommended that as the substitution of zinc oxide for white lead would operate naturally, because of its advantages, it was therefore unnecessary to prohibit either the manufacture or use of white lead. However, prejudice prevented this expectation being realised, and the controversy was revived in 1900 and continued for some years.

In 1901 a Committee of Public Health reported that zinc oxide might be substituted for white lead without greater difficulty in regard to labour or cost, and that although improvements had been made in the manufacture of white lead it still remained the cause of much unhealthiness, and further expressed astonishment that after the lapse of so many years since its first employment in France the use of zinc oxide as a substitute had not been effected. At the same time the opinion was expressed that the manufacture and sale of white lead should not be prohibited, as the committee were not absolutely sure that it could be completely dispensed with, as it occurred in colours such as chromates. The conclusions arrived at were that it was altogether desirable to substitute zinc oxide, from a health point of view, and it was possible to do so in the majority of cases. In consequence the Minister of Public Works issued, on June 1, 1901, the following instruction to Prefects:—

"That in all works under my administration it is forbidden to make use of white-lead base paints. White lead to be used only with the special authority of the head office."

It was not, however, till July 1909 that an Act was passed providing that white lead may not be used in any painting operation, either on the exterior or interior of buildings, after the expiration of five years from the date of the Act, and this date is close at hand.

In Germany regulations were issued in 1906 laying down conditions under which painting, &c., with white lead were to be conducted. Austria and Belgium followed in 1909 and 1910. Dry rubbing and pumicing were forbidden, and cleanliness insisted upon.

In the Netherlands a Commission was appointed to inquire whether white lead could be replaced by other paints, and reported in October 1909. The conclusions arrived at were that zinc oxide had been used by expert painters in that country for many years, and was better able to withstand action of sulphuretted hydrogen gas than white lead, but not so well able to withstand vapours of sulphurous acids. That it was well able to withstand the action of the open air for five years as well as lead on iron, the first coat being of lead oxide, but that it was inferior to lead where exposed to accumulations of water. That it covers equally well and is not dearer. That lithopone cannot replace lead, and that for works above water first coats of oxide of iron have proved to be quite as good as red oxide of lead. The Commission arrived at the above conclusion after a very extensive series of inquiries and experiments under a variety of conditions.

The above represents briefly the state of the case abroad, and in 1901 the Home Office drew the attention of the Commissioners of Works to the circular issued on June 1, 1901, by the Minister of Public Works to the Prefects pointing out also the extreme danger of lead poisoning that house painters are exposed to by the use of lead in paint. I expressed the opinion at the time that to abandon white lead and substitute zinc oxide would mean increased expense, and that the latter was not to be recommended for outside work, which was the common opinion at the time. I, however, arranged, with the concurrence of the Commissioners, that experiments should be made with all kinds of paints, both as purchased ready for use and mixed from raw materials, under the supervision of competent persons. They were all analysed by the Government analyst, covering power under similar conditions and cost being carefully noted. The weathering capacity was observed at intervals.

There had appeared in the *Engineer* in 1899 several articles on the weathering capacity of various paints, &c., on iron plates, the results being tabulated as follows:—

	lbs. of Rust per Yard		lbs. of Rust per Yard
Red lead .	none	White lead .	.053
Zinc white .	trace	Oxide (iron)	.083

The above experiments and results led me to modify the views that I had previously expressed as to cost and weathering capacity.

More extensive experiments followed, but opinions differed in regard to weathering capacity, although for internal work zinc oxide was regarded as perfectly satisfactory.

The experiments, however, showed that there were differences of procedure, and that it would be necessary, in order to ensure accuracy in results, to concentrate the matter in the control of one individual, and this was done.

White lead had, prior to about the year 1900, been the base of most good commercial paints, either alone or in combination with other pigments, and was valued as a paint base as giving an opaque hard-drying, yet elastic, protective film; but its defects, apart from poisoning many of its users, were its liability to discolouration and its "chalking" in chemical and seaside atmospheres.

Various substitutes had been introduced; some cheaper, such as barium sulphate, lithopone, and others, but zinc oxide is now the only serious competitor. It only came into use in this country towards the end of the last century, but during the interval that use has extended enormously. The ordinary painter had been brought up in the use of white lead, and was usually strongly prejudiced against any non-poisonous paint being substituted, although it was to his own advantage from a health point of view. The workman was not to be trusted to mix paint having a zinc base, and was prone to deal with it in the same way as he was accustomed to in the case of white lead; consequently there were frequent failures from slow drying and lack of opacity, the work requiring a greater number of coats.

Zinc oxide is a fine white, easily worked paint base, non-poisonous, and fairly permanent in colour, and has been found particularly valuable in chemical and seaside atmospheres. Consequently a more careful and systematic study was made of the mixing of paints having a zinc oxide base. Refined boiled oil was used with borate of manganese as a drier, paints so composed drying quite well. It was found that paints could be used freely when containing as much as 60 to 70 per cent. of zinc oxide, and that when so used they were of equal opacity to the usual white-lead paints. Moreover, that while three coats

* Abstract of Paper read before the Royal Sanitary Institute Congress at Blackpool, July 1914.

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of paint have been generally given on bare plaster walls, similar work has been successfully carried out with two coats of zinc paint when specially prepared.

For undercoating the paint best adapted has to be materially different from the finishing coat.

As the result of experiments certain proportions of the constituents of paints for undercoating and finishing in white, brown, and green were arrived at, and in 1906 a number of buildings were painted with paint so mixed, and careful observations were made and records kept of the various makes and composition. The proportions, however, have been varied from time to time, and now stand as follows:—

Description.	Zinc oxide.	Silica or barium sulphate.	Lead carbonate or sulphate.	Lead oxides	Iron oxides.	Zinc sulphide.	Floated silica.	Refined B. oil copal varnish and driers.	B. American turpentine.
Wood priming	25·0	17·0	5·0	—	—	8·0	10·0	25·0	10·0
Ivory White } Undercoating	50·0	15·0	5·0	—	—	Lead compounds		15·0	15·0
Ivory White } Finishing ...	45·0	10·0	5·0	—	—		Prussian blue	34·0	6·0
Medium Brown } Undercoating	10·0	10·0	2·0	3·0	22·0			38·0	15·0
Medium Brown } Finishing ...	2·0	5·0	2·0	3·0	22·0			60·0	6·0
Medium Green } Undercoating	15·0	15·0	—	3·0	7·0	6·0	2·0	37·0	15·0
Medium Green } Finishing ...	3·0	8·0	—	3·0	12·0	8·0	2·0	58·0	6·0

Chromium oxide may be used for greens, and lead chromes may be replaced with zinc chromes and anilenes if permanent; the driers should be liquid, and the paint should dry in from ten to twelve hours, and fast to friction and weather; the undercoats should be semi-flat and the finishing glossy, drying with a hard, yet elastic, film.

Experience has shown that zinc oxide, as a paint base, is a good substitute for white lead for ordinary purposes in white and light shades. In colour and wear it has stood well, internally and also externally, particularly when used on old lead paint. Trouble has been experienced with scaling in some cases, chiefly on hard or damp woods, most pronounced when priming has been of zinc oxide, and probably aggravated by the use in excessive quantity of driers, to make a quick-drying paint at the expense of toughness and permanence. Experiments are being made by which it is hoped that this defect will be overcome, but the importance of employing a minimum quantity of driers, and that of a flexible character, cannot be overrated.

Difficulty has also arisen with dark colours, such as green and brown. Such paints could be easily produced which would be quite satisfactory for a time, but after a winter's exposure become soft and are easily rubbed up. Chemists and paint manufacturers were consulted, but without effect for some time. It was, however, found that if a small quantity of litharge, or if the zinc oxide made by the direct process, from the ore, which has 5 per cent. to 7 per cent. of combined lead salts, were used, considerable improvement was effected, acting as a toughener, and from which little harm can arise to the workers. It is, therefore, thought desirable to allow lead in mixed paints to the extent of, say, 5 per cent. generally, and 11 per cent. in greens, for the present.

Many paint-makers in this country and America have frankly abandoned the use of pure zinc paint, adopting proportions up to an equal amount of lead, zinc, and barium sulphate. While one large railway has adopted zinc paints, another has given them up, and in paints prepared abroad up to 7 per cent. of lead is retained.

While the difficulties of adopting zinc oxide to the exclusion of lead are common, there is no doubt that most of them are being overcome, and the remainder are in a fair way to solution.

It is important that the pigment should be very finely ground, and not varied in size, so that when spread the particles are evenly covered by the oil or varnish mediums. It is very desirable that there should be some standard of fineness, and until this can be laid down no stipulation can be made in the specification.

The character of the medium is of equal or greater importance, and refined boiled linseed oil is, without doubt, one of the best mediums for zinc-oxide paint, both because of its paleness and superior drying qualities. It is satisfactory for undercoats, but oils used alone give rise to a ropey, uneven surface as a finishing medium. This defect is effectively overcome by the addition of a certain proportion of good oil copal varnish, which also improves the appearance and protective power of the paint. The proportion of varnish may vary considerably, according to quality and purpose of the paint, but for zinc oxide one of varnish to three of oil, and for iron oxide and other dark paints a mixture of one of varnish to two of oil, appear to give good and economical results. Chinese Tung oil is successfully used in America, and to some extent in this country, and when properly treated it gives a hard yet elastic film, and may probably, to some extent, displace linseed oil.

The above summarises briefly the position to-day as regards the abandonment of lead as a paint base, and although a small quantity seems desirable or necessary, it is possible that in course of time its use may not be needed at all. The mixing of paint, however, should not be left to the ordinary house painter, but the paint should be obtained ready mixed from manufacturers skilled in using the proper proportions regularly of the various materials, and who have efficient supervision and machinery for perfect grinding and mixing, and who can produce the paint at very moderate prices, by which means the cost of painting is no greater than before. It will be obvious that there is now no reason why zinc oxide should not practically take the place of white lead for general purposes, and this view is borne out by papers which have been read before the Paint and Varnish Society, and the discussions which have occurred thereon.

The results of the earlier experiments which were made appeared to warrant the general use of zinc-oxide paints in preference to those having a white-lead base, and in 1907 a general instruction was issued to the officers of the Commissioners of Works to use such paints to the exclusion of white lead, except for iron or steel, where the first coat is usually orange lead or orange lead and graphite combined. Gloss paints have been used generally, and enamel for the better-class work internally.

DISCUSSION.

Mr. Noel Heaton (London) said that as nothing stimulated discussion so much as flat contradiction he would say that he disagreed with almost every conclusion found by Sir Henry Tanner. As to the general conclusion expressed towards the end of the paper to the effect that it was obvious there was now no reason why zinc oxide should not take the place of white lead for general purposes, he could say himself, as a result of more than twenty years' practical experience in the scientific and technical investigation of paint problems from almost every point of view, that there were many sound technical reasons for stating that zinc oxide was by no means an efficient substitute for white lead, and he knew many cases in which it had resulted in disastrous failure. Sir Henry Tanner stated that the view he had expressed was borne out by papers read before the Paint and Varnish Society. It so happened that he was largely concerned in the foundation of that Society, and he knew everything which had gone on, and he did not think that Sir Henry Tanner's conclusion was entirely justified. There had been some strong discussions and it was a very burning question in the paint industry, and it was not quite accurate to say that this Society, which included manufacturers and paint users, was on the whole favourable to the disuse of white lead. Some of the members would like to see it abolished, but as a rule they were those who were interested in zinc oxide. Of course a man believed in his own product. The manufacturer of white lead told them that there was nothing like it, and the manufacture of zinc oxide told them that white lead was a back number. The only fair way was to go to the practical user of the material—the master decorator—and hear his views, and he thought they would find that the vast majority of them were prepared to agreed to the conclusion that white lead could not be done away with. Of course that had been put down straight away to prejudice, and Sir Henry Tanner said in his paper that the introduction of zinc oxide was delayed by prejudice. That might be the case, but he knew many cases of well-standing decorators and master painters who had approached the subject with quite an open mind, and who had taken up with enthusiasm the idea of doing away with white lead and replacing it by substitutes. They had introduced those substitutes into their work one by one, and as a result they had to give them up owing to their disastrous experience. He could tell them of many decorators who had come to the conclusion that white lead was very necessary in their work. They might call it prejudice, but it appeared to him (Mr. Heaton) remarkably like common sense. It was impossible, in the brief time at his disposal, to take up

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in detail all the technical points raised in the paper, and he contented himself with saying categorically, without giving chapter and verse, that there were sound reasons for thinking that zinc oxide could never become a really satisfactory substitute for white lead. It had many uses. For many purposes it was a very valuable material, but it would be a very dangerous proposition to say that it should without further ado and under all circumstances be adopted. There were two factors concerned. They were technical points which one could not stop to discuss adequately, but mainly the point which interested them as a sanitary institute was the question of hygiene. From that point of view there was the burning question of lead poisoning, which was always being dragged to the front. He confessed he did not think the paper quite sufficiently took into account the modern investigations into this matter. For a long time past lead had been branded with the idea that the moment it came within sight of a person it started poisoning him. The dangers of lead poisoning, he submitted, had been vastly exaggerated. Medical and scientific investigations had shown that its dangers were very largely the result of carelessness and ignorance, and that the dangers had been very largely reduced as the result of simple precautions and also as the result of greater care and knowledge of the diagnosis and of the sufferer. To give a specific illustration let them take the case of the manufacturers of white lead—those engaged in its manufacture in the works, where they were exposed to it every day in the year and were in the most favourable conditions to incur poisoning. In 1900 the number of cases of poisoning in white-lead works, which employed about 6,500 men, was something over 250 in the year. In 1912, as the result of just taking simple precautions and exercising care and cleanliness, the number had fallen to twenty-three, and the numbers were still falling. He considered that this question of lead poisoning had been made a bogey. It had only been necessary for the painter to catch a cold for plumbism to be diagnosed. In the daily Press he had come across three cases where men were reported to have died from lead poisoning, whilst as a result of post-mortem examinations it was found that lead poisoning had nothing whatever to do with the cause of death. They also had to consider a fact which was an important point and which had not been brought forward in public yet. They talked glibly enough of doing away with white lead and using non-poisonous paints, but were they sure they were getting non-poisonous paint? It had been distinctly proved that some of the substitutes were quite as harmful as white lead itself. These so-called non-poisonous paints were not by any means free from poisonous constituents. It had been shown that there was a great deal of danger in the volatile pigments which were a necessary constituent of non-poisonous paint. The evaporation of turpentine and petroleum products used as a substitute very often had caused many cases of serious illness and even fatal cases. That was a point which was gradually becoming recognised. It was now recognised that they might do away with white lead, and yet not do away with the danger of poisoning from the use of paint. It was all very well to give a dog a bad name and hang him, and there were a lot of people who wanted to hang white lead. Personally he felt that whilst they should spare no effort to improve the sanitary condition of their workers and painters, yet they should pause before they committed themselves to a policy which might not have the effect which they considered ought to be attained. He thought the line they ought to take more was to educate the painter and the user of white lead, for if it was used properly he was convinced that the risk of poisoning might be reduced to a very low point indeed.

Dr. Hodgson, R.A.M.C., said he had nothing to do with the making of paint, but he had a good deal to do with the diagnosing of lead poisoning. Mr. Heaton had said that there was nothing like flat contradiction to stimulate discussion, and one of his statements was that when a painter had a cold the doctor diagnosed it as lead poisoning. He said boldly that was bosh, but he said it with all respect to Mr. Heaton. There was no difficulty about diagnosing lead poisoning.

Mr. Munce (Belfast) said that he had a good many samples of paint sent him by different paint manufacturers, and everyone naturally said that theirs was the best in the world. He adopted the practice when he received the sample of painting the nearest urinal which wanted painting, and when the representative of the firm called on him he sent him to see how it looked. He must say that he found one of the paints better than any other. It was a paint which was most objectionable to the painter, but it was better for the ratepayer.

Mr. Willis (Chiswick) said it was extremely good of Sir Henry Tanner to have the analyses made, even although probably some of them in the room would differ from him. Personally he still preferred to use white-lead paint, having tried both. He found zinc oxide answer very well for interior work, but up to the present he had not found it satisfactory for outside work, although he had used the paint of several manufacturers. There was just a point about the French regulations eliminating white lead altogether. Sir Henry Tanner himself admitted that 5 per cent. of white lead was beneficial, and he did not know how the French authorities were going to get over it. He would also like to know the effect of ammonia on zinc oxide, as up to the present he had found no paint which satisfactorily stood ammonia fumes in a damp atmosphere. He had noticed in particular the underground conveniences in London, and he had found no paint stood more than a year or two on the roof in conjunction with iron girders. He had used white and green oxide paints, and his remarks applied to those because he had never used a brown zinc-oxide paint.

Sir Henry Tanner, in reply, said that he was not concerned with the opinions of medical officers. He simply took what they told him, and endeavoured to see if he could carry out what was suggested. If he had been able to make paints which satisfied all his requirements, and zinc oxide was innocuous, then he thought he had done his part. He did not speak of the prejudices of the master, but spoke of the prejudice of the workmen, and that is where they found most difficulty. The workmen had worked with white lead all their lives, and, as they knew, workmen were rather apt to stand by what they had done rather than to go in for anything new. From that point of view they decided that they would not have any more paint mixed by workmen on the job. For years past they had always stipulated that the paints used should be bought from some manufacturer who they knew mixed them in accordance with their requirements. He had not mentioned names, as he did not think that would be fair. All the experiments had been conducted by one of his officers, and every observation had been taken. He must leave the medical officers to back up their own opinions. As to colours, they would notice that the quantity of zinc oxide in a dark paint became rather small. As a matter of fact, they could not put much white where they wanted dark colour, and therefore they had increased the proportion of iron oxide. Questions had been raised about external painting. So far as external painting was concerned, they had had no difficulty in using zinc oxide. In fact, he was considering whether it should extend the ordinary period of four years for outside painting to five years. At seaside places zinc oxide was infinitely superior to white lead. He had no experience of painting ironwork in underground conveniences, as he had nothing of that sort under his charge. They did not recommend the putting on of a first coat of zinc oxide. What they did was to put on a first coat of orange red, which, as they knew, was very much like red lead.

PORT OF LONDON SANITARY COMMITTEE

NEITHER the extent nor the importance of the duties which centre upon the above department of the City Corporation are, and scarcely can be, realised by the ordinary public. An insight into the matter was afforded on Saturday last to those who were fortunate enough to be invited to join the Port of London Sanitary Committee in their steam launch *Lady Truscott* for a tour of inspection.

The Committee consists of six Aldermen, twenty-nine Commoners, and the representatives of the Corporation on the Port of London Authority and the Thames Conservancy Board. It has been in existence since 1873, and has an area from high-water mark at Teddington Lock down both sides of the river to an imaginary line drawn from Havengore Creek, in Essex, across to the port of Faversham, in Kent, and for a certain distance up the Medway. The City provides the funds for this national work. Any vessel lying within their jurisdiction is subject to certain sections of the Public Health (London) Act, 1891, as if it were a house.

A start was made last Saturday at London Bridge. A halt was made at Greenwich, where a special plant is provided to generate sulphur-dioxide gas for the fumigation of vessels and destruction of rats. Between February 1901 and July 11, 1913, a grand total of 820,655 rats—*i.e.*, possible

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MODERN EUROPEAN ARCHITECTURE.

GERMANY.



[From *Moderne Bauformen.*

NEW TOWN HALL AT COLOGNE. The City Architect, Herr BOLTE, Architect.

carriers of bubonic plague—have been destroyed. Lower down, in a great warehouse, the inspectors of food-stuff were seen at their all-important work. The Medical Officer of Health is empowered to detain all imported articles of food and foreign meat for examination, or, in the case of foreign meat of certain classes, to prohibit its landing, except for the purpose of exportation. This work is carried out by fourteen specially qualified officials. The inspection of ships for the purpose of ascertaining whether any on board are suffering from cholera, yellow fever, or plague is another very grave responsibility. A hulk, appropriately called the *Hygeia*, is moored off Gravesend to serve both as a station and as a place of residence for an assistant medical officer. At Denton, near Gravesend, is their hospital of fifty beds for cases of infectious disease.

It is proposed to give the public an idea of the work accomplished by the Common Council, as the Port of London Authority, through the help of lectures and picture post-cards. Their duties are of a most comprehensive character, and their success must be apparent to anyone who considers the matter at all.

VICTORIA AND ALBERT MUSEUM.

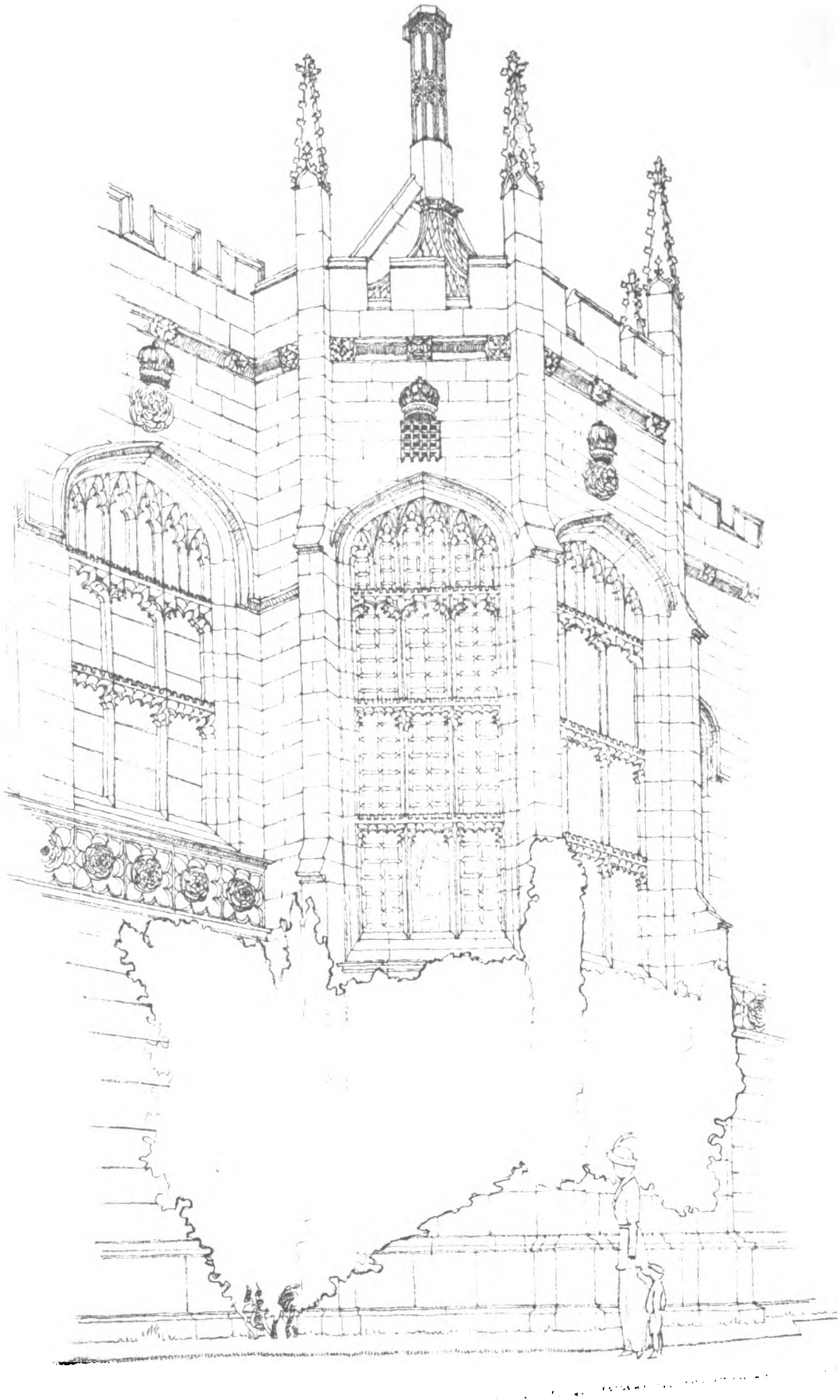
AN opportunity is now afforded to students of Old English furniture of observing one of the best-known specimens extant of the Pre-Reformation period. Mr. F. Harris Mitchell, of Chard, has lent to the Victoria and Albert Museum the famous Gothic bench, for many years in the "Green Dragon" Inn, at Combe St. Nicholas, Somerset; and this is now exhibited in the Department of Woodwork, in Room 21, near the Exhibition Road entrance to the Museum. This bench has long been known to connoisseurs, and was illustrated, in 1859, in Parker's "Domestic Architecture in England." Mr. Fred Roe also published an excellent account and drawing of it, in its original situation, in his "Old Oak Furniture." The wood-cut in Parker, in spite of its bad drawing, shows that an important detail of decoration has been lost since his day—viz. the figure of an angel bearing a shield, which formerly constituted the terminal of the curious overhanging beam on the left side of the bench. This loss is the more regrettable as the device on the shield, which appears to have been a goat's

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INTERIOR OF CHURCH OF ST. NICHOLAS, BARI.

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PHOTOGRAPH BY A. E. WALSHAM, 60 DOUGHTY STREET, W.C.

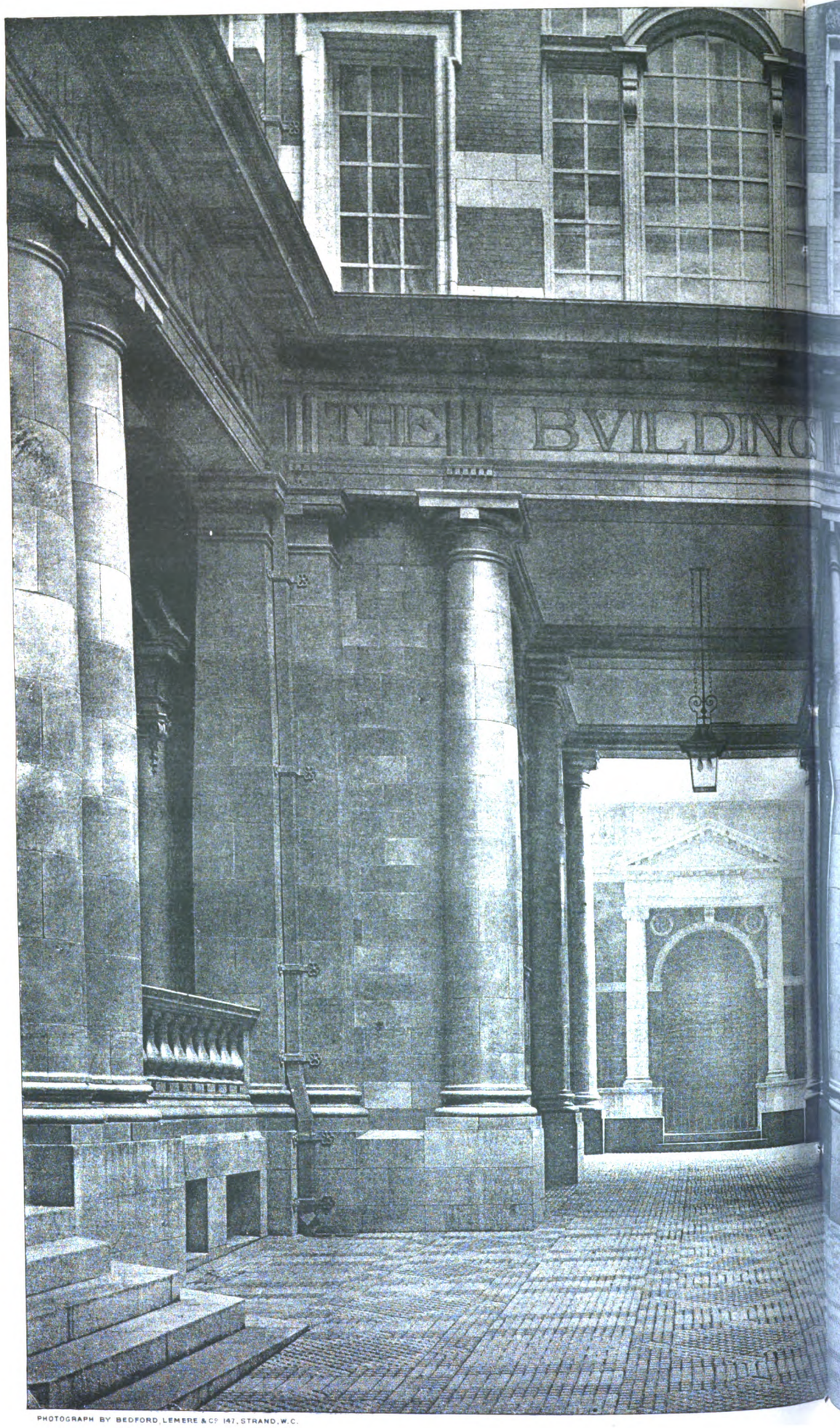
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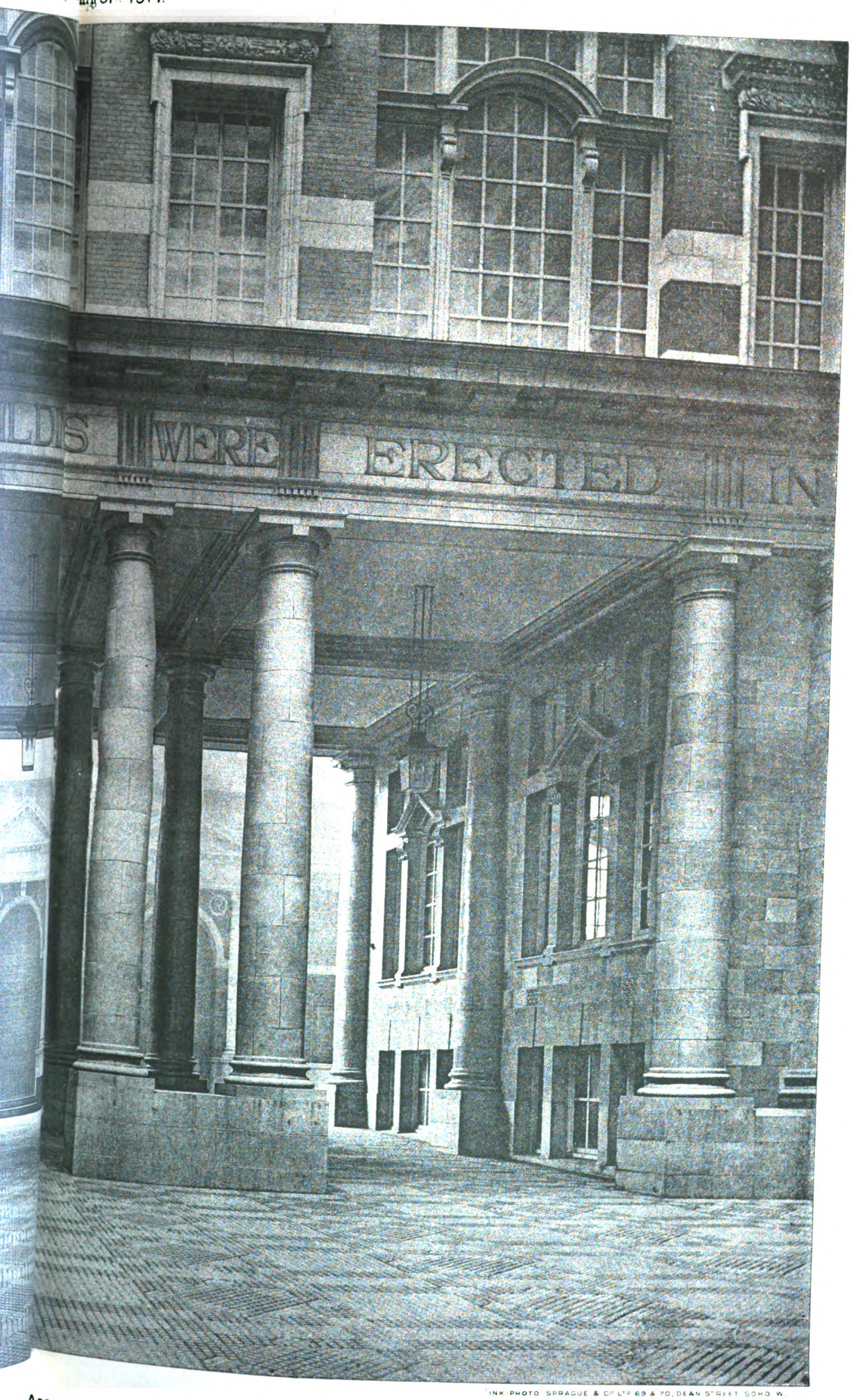
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INTERNAL COURT, EXTENSION OF REFUGE

MR. PAUL WATERHOUSE

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July 31st 1914.



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ASSURANCE COMPANY'S OFFICES, MANCHESTER.

PAUL M.A., F.R.I.B.A., Architect.

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DOORWAY FROM CHURCH OF ST. NICHOLAS, BARI.

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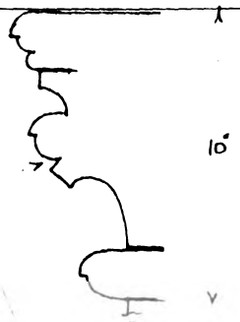
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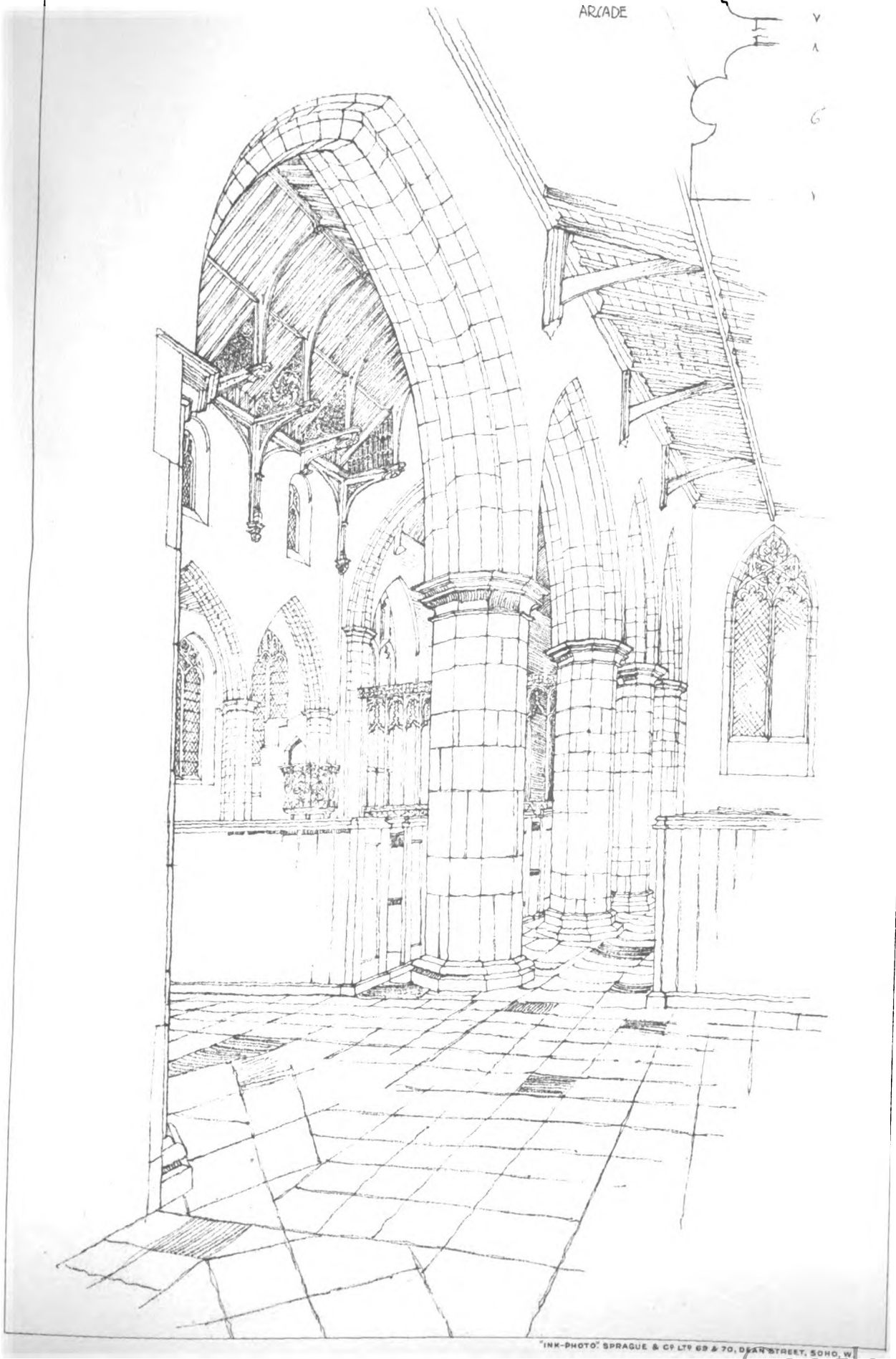
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"THE ARCHITECT" TRAVELLING STUDENTSHIP, 1913.

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MODERN EUROPEAN ARCHITECTURE.

GERMANY.



[From *Moderne Bauformen.*

BUSINESS PREMISES OF THE BROTHERS BING'S SONS ON THE NEUMARKT, COLOGNE.

Herr H MULLER EBKELENZ, Architect.

head, might have afforded a clue to the origin of the bench. It can hardly have been made in the first place for a small village inn, but probably had its first home in the refectory of some monastic establishment. The table, with a Gothic arcaded frieze, had also disappeared before Mr. Roe made his drawing. In spite of this mutilation and loss, the fine proportion and execution of the linen-fold back and other details give this piece of furniture a special value to students. It has been set up against a background of linen-fold panelling, and adjacent to a Gothic window-frame in oak, from Hadleigh, Essex, recently presented to the Museum by Mr. A. H. Fass, while other appropriate furniture is placed in the neighbourhood. The English, French, and Gothic woodwork has now all been rearranged in this gallery, where it can be seen to better advantage than in its former situation.

In Room 52 is also displayed, a recent purchase of considerable interest, a quantity of plaster-work, decorated in *grisaille*, which was acquired for the Museum from an old house at Stodmarsh, Kent. These panels fall into two groups, one representing the story of Diana and Actæon, flanked with full-length drawings of a lady and of her maid in costume of the middle of the sixteenth century; and the other group consisting of emblems of four of the planets—Jupiter, Venus, Mercury, and the Moon—each with one of the signs of the Zodiac and a landscape emblematic of one of the months. Apart from their intrinsic value as rare specimens of early plaster decoration in England, these panels are of peculiar interest, inasmuch as each of the last-named is copied from an engraving by Virgil Solis, the Nuremberg goldsmith (born 1514, died 1562), and actually bears his monogram. Solis is proved, by a drawing recently purchased for the Department of Engraving, Illustration and Design, also to have given attention to the story of Actæon; and while it cannot be suggested that he himself was in any way directly responsible for the execution of the Stodmarsh paintings, it is evident that they must have been done by someone—and, as proved by the costume, a contemporary—who had a singularly intimate knowledge of the Nuremberg master's work. Technically, they suggest a simple and effective method of wall-decoration to which those now endeavouring to revive the art of mural painting might well give their attention.

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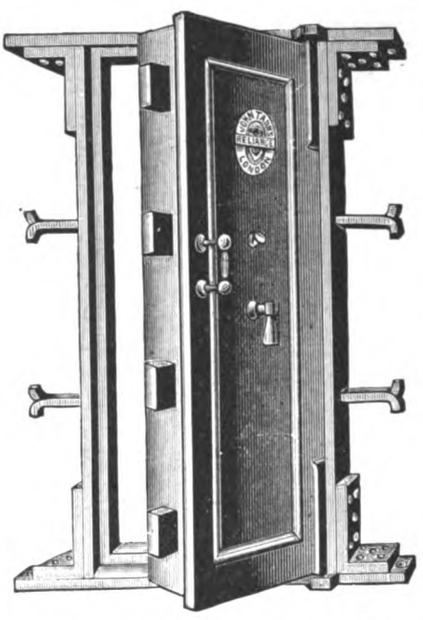
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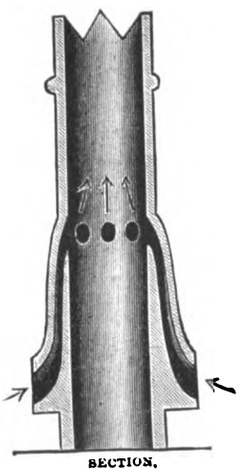


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ART IN LONDON.

PAINTING AND SCULPTURE AT THE LEICESTER GALLERIES.

THIS is by no means so interesting an exhibition as we customarily see at these galleries, Mr. L. Campbell Taylor with his paintings and Jo Davidson in sculpture proving less worthy representatives than many others whose works we know and appreciate. Not that there is lacking clever work on the part of the one and the other artist; but it is not of a calibre—a quality such as we associate with exhibitions at the Leicester Galleries.

Mr. Taylor works from a very cold palette and with a technique all too hard and at times harsh. There is however a certain virility in much of his work, which arrests attention. "A Study" (36), being a sketch of a girl standing on a breezy moor, shows this quality and is also to be noted for the exceptional colour. "In the Studio" is even better, for here are not only the good points just mentioned, but in addition satisfactory colour-massing and general treatment, and the glint of sunlight on the wall and candle-sconce is very telling. The two "Somme" studies (16 and 25) are the only others out of the collection which are at all pre-eminent, though there is certainly good work elsewhere, such as in "Piquet" (where the old lady's head is excellent), "Summer Afternoon," with its pleasant distance-landscape, "Check" and "Place du Marché, Picquigny." There is, however, more than a tendency in some of the pictures to obtrude the depicted articles of furniture to the detriment of the subject.

And what about the sculptor? Regard, for instance, the so-called decorative panel in sunk-relief (14), which is as far removed from true decorative effect as it is from true modelling. Regard "Extasy," where the over-bulky protuberosity of the thorax may be perhaps accounted for by the superfluous material having been filched from the all too meagrely provided abdominal regions.

And once again, whilst not wishing to be prudish, there is a certain accepted convention as to the use of the fig-leaf in sculpture, which we do not care to see disregarded; at the same time there is an element of (unconscious) humour, in that the "Study for Garden Figure" (25), which thus earns our stricture, should be set so close to Mrs. Grundy (27).

The best work is to be found in the portrait studies of heads, but even in these there is a predilection for making the eyes lack-lustre, or even dead; in some instances the pupils are altogether omitted. We think the very best is the portrait of Mr. Israel Zangwill, a speaking likeness of this well-known littérateur; also "Alvin Langdon Coburn" and "Rabindra Nath Tagore" are finely modelled heads. The torso of a female (17) is certainly good work. But we are bound to say in conclusion that some of the work, however clever it may be, creates a sense of distaste, and that in the exhibition as a whole we are disappointed.

MR. FRANK L. EMANUEL'S DRAWINGS OF LONDON AND ELSEWHERE.

WE have known and appreciated Mr. Emanuel's virile drawings of street architecture for many years past; and his work will be familiar also to readers of *The Architect*. We regard his studies as providing a valuable archæological record, limning as they do the disappearing features of an ever-changing city.

At the same time we must convict Mr. Emanuel of one artistic solecism in his too great insistence upon the lettering of sign and facia, which undoubtedly meets the eye and penetrates to the brain, but which should be modulated and quietened in a reproduction where the half-closing of the eye and the lessened activity of the brain may combine in the interests of Art without disregarding Nature or Truth. Regard, as the most culpable example, the corner of Lincoln's Inn Fields (now demolished for the new offices of the Public Trustee), where the figure 5 on the quoin-stone is the most prominent portion of the sketch. But this solecism and a certain quality of hardness in some of the sketches are the sole adverse criticisms we have to offer. It is more agreeable to our feelings to regard and to call attention to such work as "Parliament Street" (4), "Whitgift Hospital," "The Fountains," "Kensington Gardens," "The Old General Post Office," "An Old Stable, Ayr," "Lac d'Amour, Bruges," and "Charlotte Street, Fitzroy Square." How well we know this street! and it remained for Mr. Emanuel to convey any air of interest to a thoroughfare hitherto always regarded by us as a disagreeable necessity. The Kensington fountains and the Bruges lake are perhaps the gems of the collection. We might mention many others, but must rest satisfied with a reference to "The Wood Street Tree," a sketch which has the art to render attractive such a utilitarian feature as builder's scaffolding. The exhibition should serve to enhance Mr. Emanuel's already brilliant reputation.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Aylesbury.—Council cottages, Oxford Road. Council surveyor.

CHESHIRE.

Macclesfield.—St. Alban's R.C. Church, Chester Road: proposed completion (£2,000).

CORNWALL.

Redruth.—Trewirgie Council Schools: proposed extensions.

CUMBERLAND.

Aspatria.—Twenty Council houses.

Oughterside.—Four colliery houses.

Whitehaven.—Infirmary; proposed nurses' home (£4,000).

Y.M.C.A. premises, Market Place: additions. Mr. E. Martindale, architect, Tangier Buildings, 11 Lowther Street.

DERBYSHIRE.

Chesterfield.—Ragged School: extension in Markham Road. Mr. W. M. Ashmore, architect, 1 Highfield Road. Mr. D. Brown (of Hasland), contractor (£700).

Derby.—Fire Station, Jury Street. Mr. J. Ward, Borough surveyor. Mr. Fryer, contractor, Great Northern Road.

Glossop.—St. Charles' Jubilee Hall. Mr. R. G. Hawke, architect, 12 Ellison Street.

DEVON.

Exeter.—Proposed Manual School (£2,000).

Morthoe Woolacombe.—Elementary school for 120 places. County Education architect, 1 Richmond Road.

DURHAM.

Langley Park.—Fifty-four houses, for the Consett Iron Company.

Willington.—Presbyterian Church.

ESSEX.

Pitsea.—Congregational Sunday School and Institute.

Rayleigh.—Congregational Sunday Schools (£670).

Southend-on-Sea.—Proposed church, Westborough Road, Westcliff.

GLOUCESTERSHIRE.

Bristol.—Working-class houses, Parson Street and Stapleton Road (£6,750).

HERTFORDSHIRE.

Hemsworth.—Picture Palace, Westfield Road, for Messrs. Turner & Greenwood.

Willian.—Tuberculosis Sanatorium, for the County Council.

KENT.

Hythe.—Concert Hall. Mr. A. Wintle, architect, 418 Strand, London, W.C.

Sandgate.—Parish Church: improvements (£1,100).

Sevenoaks.—Swimming Bath (£6,000).

LANCASHIRE.

Bolton.—Two houses, Bentley Street, for Mr. Eckersall.

Great Harwood.—Conservative Club-house, behind the Park Hotel.

Leyland.—Parish Church: restoration (£2,900). Mr. Temple Moore, F.R.I.B.A., architect, 44 Bedford Row, London, W.C.

Liverpool.—Picture Theatre, West Derby Street. Messrs. Campbell & Fairhurst, architects.

Leasowe Sanatorium for Crippled Children: administrative block.

Preston.—St. Cuthbert's Church (first portion, £7,200).

Wigan.—Picture Hall, Ormskirk Road, Pemberton, for Eagle Picturedromes, Ltd.

Catholic elementary school (for 250 places), Ellesmere Road, Pemberton.

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ENGLAND—*continued.*

LEICESTERSHIRE.

Leicester.—Institute, Causeway Lane (£3,000). Messrs. Stockdale Harrison & Sons, R.I.B.A., architects, 7 St. Martin's East.

LINCOLNSHIRE.

Boston.—Premises, Brothertoft Road: additions and alterations (as cottage homes), for the Board of Guardians.

Lincoln.—Scothern Boys' Home: additions and alterations, for the Board of Guardians.

Moston.—St. John's Day and Sunday Schools.

Pinchbeck.—Proposed eighteen working-class houses (£2,200).

NORFOLK.

Great Ryburgh.—Four cottages, for Walsingham R.D.C.

Great Yarmouth.—Six houses, Century Road, Cobholm, for Messrs. J. & R. Chaston.

NORTHAMPTONSHIRE.

Oundle.—Council School. Messrs. Traylen (A.R.I.B.A.) & Son, architects, 16 Broad Street, Stamford.

Wellingborough.—Working Men's Club-house, Cannon Street.

NORTHUMBERLAND.

Newcastle-on-Tyne.—One hundred and twenty-eight workmen's dwellings, St. Lawrence Square and Walker Road.

OXFORDSHIRE.

Henley.—Royal Grammar School: enlargement and alterations (£4,000).

SHROPSHIRE.

Church Stretton.—Institute (£1,500). Mr. P. Morley Horder, F.R.I.B.A., architect, 148 New Bond Street, London, W.

SOMERSET.

Bridgwater.—Art and Technical Schools: additions. Messrs. Samson & Colthurst, R.I.B.A., architects, 1 Hammet Street, Taunton.

Chilcompton.—Church House. Mr. H. G. Tovey (of Midsomer Norton), architect.

Radstock.—Forty workmen's houses.

Wells.—St. Thomas's Schools: additions. Messrs. Hippisley & Sons, architects.

Wincanton.—Isolation Hospital: addition. Mr. A. J. Pictor, A.R.I.B.A. (of Bruton), architect.

SURREY.

Godalming.—Women's Tuberculosis Sanatorium, Hyde Stile (for 200 patients).

Kingston-on-Thames.—Wesleyan School Hall (£2,000). Mr. A. Dawkins, architect.

Walton-on-Thames.—Group of cottages, Hersham, for the Whiteley Estate Trustees. Mr. R. F. Atkinson, F.R.I.B.A., architect, 8 Sackville Street, London, W. Messrs. H. Martin, Ltd., contractors, Thenford Street, Northampton.

SUSSEX.

Hastings.—East Sussex Hospital (Edward VII. Memorial).

Stedham.—Schools: additions, for West Sussex County Council. Mr. H. P. Roberts, F.R.I.B.A., architect, County Education Offices, Thurloe House, High Street, Worthing.

WARWICKSHIRE.

Coventry.—Technical Institute. Mr. A. W. Hoare, architect.

Leamington.—St. John's Church Hall. Mr. E. J. May, F.R.I.B.A., architect, 21 Hart Street, Bloomsbury, London.

Nuneaton.—Children's Home, Henry Street: extension, for the Board of Guardians.

The "Peacock" Inn, Market Place, for Messrs. Ind, Coope & Co.

Fifty municipal houses. Borough surveyor.

Two houses, Arbury Road, for the Co-operative Society.

Eight houses, Earl's Road, for Messrs. Wheatley & Parton.

Four houses, Bracebridge Street, for Mr. W. E. Mayo.

House, The Square, Attleborough, for Mr. J. Thompson.

Sutton Coldfield.—Girls' High School for 200 places.

WORCESTERSHIRE.

Worcester.—Council School, Stanley Road (£10,300).

YORKSHIRE.

Barnsley.—Proposed Technical and Art School.

Guisborough.—Workhouse: reconstruction. Messrs. Taylor & Minor, A.R.I.B.A., architects, Post Office Chambers, Darlington.

Huddersfield.—Alhambra Picture Palace, Lockwood. Messrs. J. Berry & Sons, architects, 3 Market Place.

New Edlington.—P.M. School Hall.

Rotherham.—The Crinoline Bridge Inn, Rawmarsh Road: alterations.

Sheffield.—Electric Theatre, Neepsend, for the Rutland Picture House, Ltd. Mr. J. E. Whitehurch, architect, 38 Bank Street,

S.A. Junior Hall, Heath Road.

WALES.

Aberkenfig.—Council School.

Denbigh.—The Talbot Hotel: alterations. Mr. J. Hughes, architect, Park Street. Mr. Wheeler, contractor, Love Lane.

Church Institute and Schools. Mr. J. Hughes, architect, Park Street. Mr. Evans (of Trefnant), contractor.

Llandovery.—Two houses, Broad Street, for Messrs. D. Jones & Sons.

Llansamlet.—Council School (£8,100).

Loughor.—Two houses, Danybryn Road, for Mr. J. Jenkins.

Two houses, Danybryn Road, for Messrs. Nicholas & Watts.

Margam.—Carnegie Free Library. Mr. J. Cox, surveyor. Mr. J. V. John, contractor.

Pontardulais.—Boys' Council School.

Rhymney.—Cottage Hospital: extensions. Mr. J. L. Smith, architect, 7 Victoria Square, Aberdare.

Swansea.—Five hundred municipal houses, Town Hill (£102,000).

SCOTLAND.

Ardrossan.—Parish Council Offices (£1,600).

Dumbarton.—Six cottages and a villa, Townsend Road, Barloan. Mr. W. H. Kirkwood, architect, 5 South Street, Greenock.

Edinburgh.—Royal (Dick) Veterinary College. Summerhall.

Hamilton.—Four tenements, Low Waters, for the Town Council (£3,100).

Penicuik.—Picture House, Jackson Street, for Mr. Scott.

Peterhead.—Electric Theatre, Queen Street. Burgh surveyor.

Pittenweem.—Town Hall (£11,000). Messrs. Haxton & Walker, architects, 3 High Street, Leven.

IRELAND.

Kiltimagh and Swinford.—Forty-nine labourers' cottages, for Swinford R.D.C.

PATENT SPECIFICATIONS PUBLISHED JULY 23, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 15,336. July 3, 1913.—J. S. Hawkins, 40 Waldemar Mansions, Waldemar Avenue, Fulham, S.W. Grooving planes and analogous wood working tools for grooving, rebating, beading, and the like.

15,393. July 3, 1913.—Gustav Meyer, 202 Rade berger Str., Radeberg, near Cologne, Germany. Production of hinges.

15,400. July 3, 1913.—Karl Finding, Bleiberger Bergwerks Union Mine, Schwarzenbach, near Pravali, Karnten, Austria. Fastenings for oven doors and the like.

15,684. July 7, 1913.—T. E. Gatehouse, 4 Ludgate Hill, E.C. Fastenings for windows, doors, and the like.

15,745. July 8, 1913.—George Knowling, Goat Wharf, Brentford, Middlesex. Reinforced block-work floors.

16,497. July 18, 1913.—J. S. Rigby, 26 Bagot Street, Liverpool. Machinery for the manufacture of blocks for building and other purposes.

20,072. Sept. 5, 1913.—Edwin Matthews, Red Barn Farm, Hereford. Gate or door fastenings.

20,073. Sept. 5, 1913.—James Straiton, 230 Strand Road, Bootle. Fastenings for doors.

21,893. Sept. 29, 1913.—Frederick Thackeray, 3 Cambrian Terrace, Gwaelodygarth Road, Merthyr Tydfil, Glam. Combined ties and struts for walls, arches, vaults, and domes.

22,156. Oct. 1, 1913. Dated under International Convention Oct. 2, 1912.—Anton Schnell, Weidner Hauptstr., 15, Vienna IV., Austria. Manufacture of concrete or like stones from plastic material.

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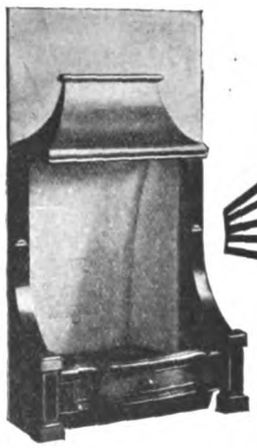
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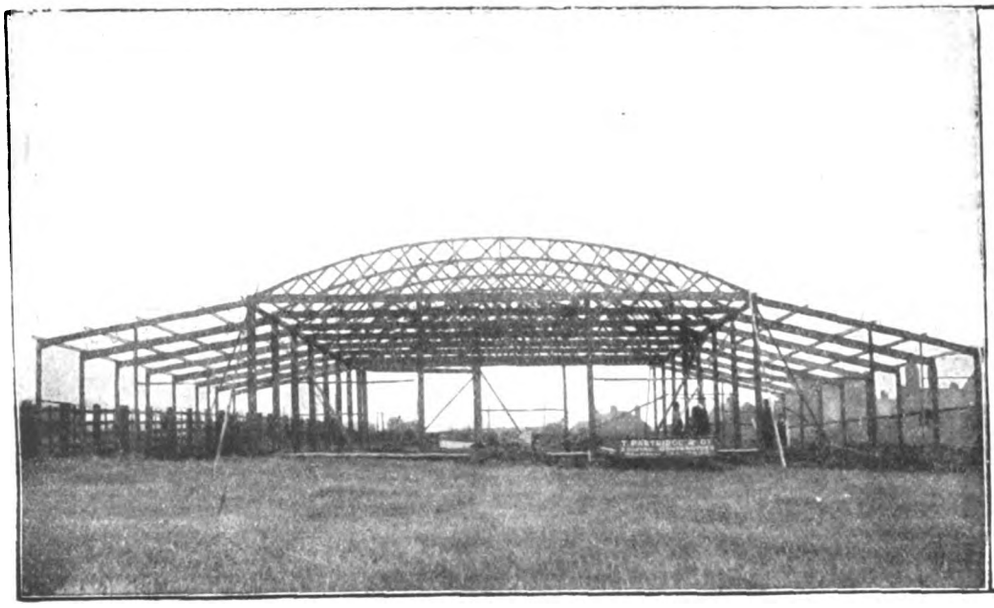
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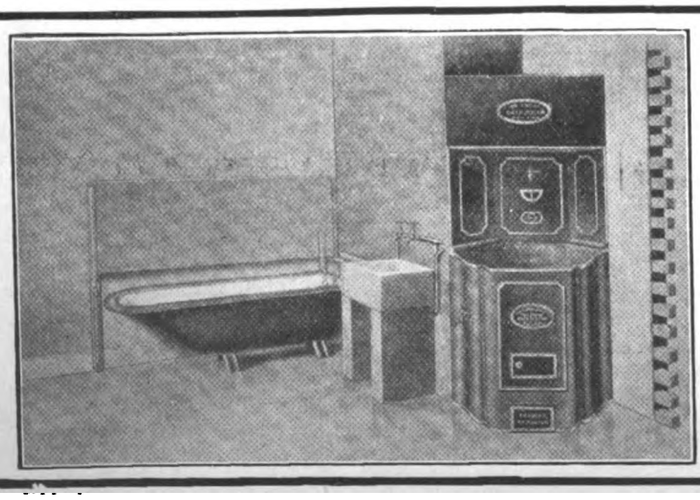
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28,033. Dec. 5, 1913.—Dated under International Convention Dec. 5, 1912. A. H. R. de Lempdes, 64 rue Pannessac, Le Puy, Haute Loire, France. Stoves.

29,411. Dec. 20, 1913. Dated under International Convention Feb. 27, 1913. B. G. Wenker, 203 Logan Block, and J. F. Krause, 920 Francis Street, St. Joseph, Buchanan, Missouri, U.S.A. Foot-action flusher or water-supply device.

29,714. Dec. 24, 1913.—Dated under International Convention Dec. 28, 1912. Siemens-Schuckertwerke G.m.b.H., 3 Askanischer Platz, Berlin, S.W. 11, Germany. Electric cooking stoves or ranges.

3,277. Feb. 7, 1914.—J. W. Wadkin, 89 Forest Road, W. Wood-working machinery.

3,653. Feb. 12, 1914.—J. M. Clive, 51 Moorgate Street, E.C. Construction of safes, strong rooms, and the like.

4,151. Feb. 18, 1914.—J. W. Turner, 14 Green Road, Dodworth, Barnsley. Chimney cowls and ventilators.

5,631. March 5, 1914.—Walter Hartung and Hermann Merluschker, 24 Wiesestr., Gera, Reuss, Switzerland. Flush bolt for doors.

9,875. April 21, 1914.—Dated under International Convention April 21, 1913. C. A. Hipp, 84 Schlossstrasse, Stuttgart. Gas-cooking stove and water heater.

22,385. Oct. 4, 1913.—Kenneth Aird, Gothic Works, Falkirk. Gas fires.

27,902. Dec. 4, 1913.—Arthur Hoare, A. T. Laing, and H. D. Ash, 11 Elphinstone Circle, Bombay, India. Fountain standposts for gravitation or like water supplies.

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THE LONDON BUILDING STRIKE.

THE decision of the masters to declare a national lock-out will have caused little or no surprise to anyone when its announcement was read in the Press on Tuesday last. But the overwhelming character of the ballot was scarcely expected, and it should serve to show that the London strike is regarded very seriously all over the country. A poll of 7,319 votes for and 1,739 against is no uncertain answer from the National Federation of Building Trade Employers. At their half-yearly general meeting at Cardiff last Tuesday the Executive Council reported that on the result of the ballot for a lock-out it despatched the following ultimatum, signed by the Secretary, to the Executives of the General Unions of trades which are still obdurate: "I am instructed to give you notice that unless the present dispute in London is brought to an end so far as your Society is concerned on or before August 15 next this Federation will issue instructions for an immediate lock-out of the members of your Society. Whilst this Federation regrets that any such course is necessary, I am desired to point out that this action has become imperative in consequence of all reasonable suggestions for settlement put forward by the accredited representatives of the employers and operatives having been rejected by the London operatives, although accepted by the London employers. The Federation has always recognised and appreciated the general loyal observance of agreements by your Society throughout the provinces, but it is obvious that if a section of your Society in London can successfully break agreements that have been entered into after all formal requirements on either side have been complied with, and can receive the support of the provinces, then no agreement throughout the country will any longer be a safeguard to the trade."

This action was unanimously endorsed by the Federation.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The Decorative Artists' Sketch Club.

SIR,—The Decorative Artists' Sketch Club's first exhibition of pictures, sketches, decorative drawings, and posters was opened by the President of the Club, Mr. Chas. Hindley, on Wednesday evening last, the 29th inst., at 7.30, and your attendance and interest is cordially invited. The pictures are shown in the Press Section of the Anglo-American Exhibition, Shepherd's Bush. A glance at the names of those who willingly associated themselves with the Sketch Club will show the influential support which the scheme has received. It is hoped that the first exhibition of members' work will be the means of bringing the objects of the Club before many other artists, who are at present unaware of its formation, and its sphere of usefulness will develop with the increase of membership. The one hundred or more pictures on view suggest very little to adversely criticise, while there is on the other hand very much on which unstinted praise may be bestowed.

The time at the disposal of the members was very limited, and that such a fine collection of work could be brought together at practically only a few weeks' notice promises well for future effort, and has fully justified the most sanguine expectations of the founders of the Decorative Artists' Sketch Club.—Yours faithfully,

BERTRAM S. PUCKLE,
Hon. Secretary.

Shakespeare Memorial National Theatre.

SIR,—One of the architectural journals has expressed a wish to publish the particulars and conditions of the competition in respect of the Shakespeare Memorial National Theatre.

On the suggestion of our assessor, Mr. T. E. Collcutt, I enclose particulars of the competition which will be issued to those architects who apply for them, in case you wish to publish them in your columns.—Yours faithfully,

GEORGE HEYER,
Secretary.

3A Dean's Yard, Westminster Abbey, London, S.W.

ARCHITECTS' COMPETITION.

Conditions to be observed by architects proposing to submit designs in accordance with the advertisement appearing in *The Architect*.

The names of the architects sending in designs, and also their designs, will be seen only by the assessor and the sub-committee. The drawings may be the original working drawings of buildings erected, or they may be elevations of buildings designed but not erected. Not more than five drawings or photographs should be submitted, and not more than two perspectives. A short report of the designs may be submitted, and also a list of buildings of importance designed or erected.

All drawings to be sent in a portfolio on or before September 15, 1914, to the Secretary, the Shakespeare Memorial Committee, 3A Dean's Yard, Westminster Abbey, S.W.

413, 415 Strand.

SIR,—I am interested in seeing in your current issue the sketch of the old buildings in the Strand—Nos. 413, 415—and am extremely sorry to recognise their approaching demolition. Not alone do they possess a certain architectural interest, but seeing that the famous Manasseh Ben Israel resided there on the occasion of his negotiations with Oliver Cromwell for the re-admission of the Jews into England, the interest of the premises is of much greater scope than merely architectural.—Faithfully yours,

PERCY L. MARKS.

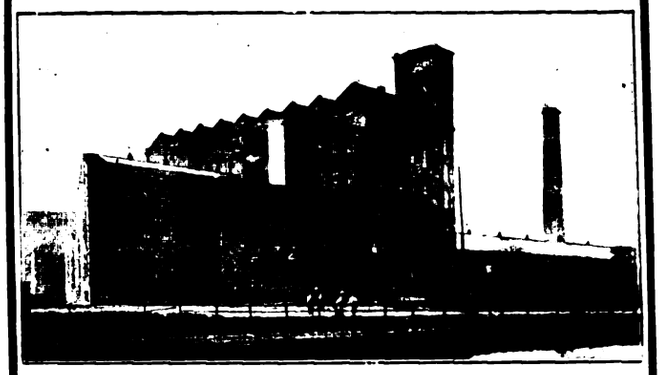
THE tower of the church at Holme-next-Runcton, Norfolk, is about to be strengthened and repaired in accordance with a report made by Mr. Herbert Green, the diocesan architect. The builder's work is to be entrusted to Messrs. Neal Bros., contractors, of North Elmham, Norfolk.

TRACES of the Celtic religion in Ireland were the subject of an interesting communication made to the Academy of Inscriptions by M. J. Loth, of the Collège de France, who is the French translator of the "Mabinogion." He showed that the Hill of Ushnagh, in West Meath, can be regarded as an *omphalos*, that is to say, religious centre, believed by worshippers to be the centre of the earth. Such a spot was Delphi for the Greeks, and the German antiquary Dr. Roscher has shown that this idea of a sacred spot which was the centre of the earth existed among nearly all ancient peoples. In M. Loth's opinion the Hill of Ushnagh was just such an *omphalos*. Its old name Mide (a corruption of Medion) has already been shown to mean "middle," and the name of Meath County in which it stands has the same derivation. According to Giraldus Cambrensis, the centre of Ireland was marked in the twelfth century by a stone pillar. This pillar can be identified with the solitary block of rough granite which stands on the Hill of Ushnagh to this day, and it is certain that the Hill was the scene in Celtic times of a great annual gathering about the First of May.—*The Times.*

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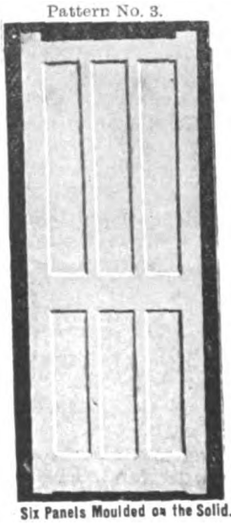
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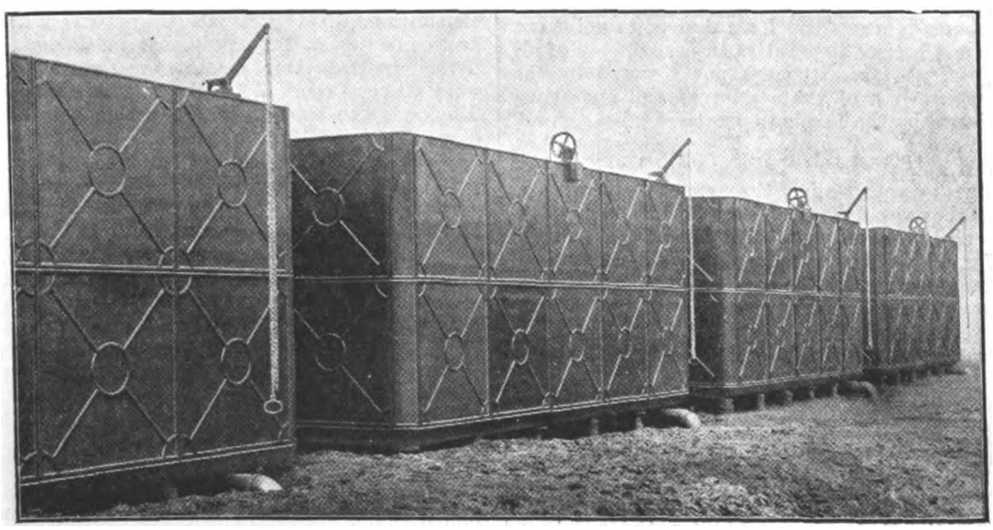
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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, August 10.

Royal Institute of British Architects: Exhibition of Designs submitted under Subject XV. (three days).

Monday, August 17 to 21.

Architectural Association: Excursion commences. Headquarters at Devizes.

Monday, August 17.

Cambrian Archæological Association: Annual meeting at Dolgelly (August 17-22).

OUR DUTY.

In the state of war in which our country is now involved, the duty of those of us who are not privileged to take our position in His Majesty's forces is clearly to pursue our ordinary avocations in an ordinary way as far as possible, to avoid panic ourselves, and to allay any tendency thereto in our neighbours. Necessarily, the European complication must affect largely and seriously the activity of the building trade even when the struggle between employers and workmen in that trade has been ended. We may, however, feel confident in the fact that the Government have not been caught napping, but have the situation well in hand, and have promptly taken proper precautions to resist attacks, and to minimise dangers affecting our finances, our food supply, and our national property. Our timber supply from the Baltic, for example, must cease for the time, but that from across the Atlantic may be relied upon at a minimum of increase in cost.

We may feel confident that the spirit of unanimity which the crisis in our national affairs has evolved will extend to the building trade, and that a *modus vivendi* will be found to at least put on one side for a time the dispute between the master builders and the building trade unions, even as the more threatening controversy in the affairs of Ireland has been shelved by the good sense and true patriotism of the Irish people. Surely the British workmen in our trade and their employers are no less cognisant of the necessity of closing our ranks.

The part of civilians in the present circumstances is to keep going as far as possible the whole of our industries, and especially the largest of them, the building trade, so that the volume of unemployment which war must necessarily involve may be kept to the smallest possible dimensions.

The calm confidence that has been instilled into all of us by the admirable way in which the Government has handled the serious dangers with which we are threatened inspires the hope that not only will all public undertakings at present in progress be actively prosecuted, but that other means of furnishing employment will be found as soon as the building trade has composed its differences, if only by a temporary truce, and is ready to resume its normal activity.

Not only have masters and men to do their duty, but manufacturers and merchants must also do their part and abstain from seizing the opportunity that the national difficulties present of extorting increased profits by unnaturally inflated prices for material. Belgium may be too much engaged in resisting unwarranted aggression to send us steel, but the Government's plans for minimising war risks will keep down freights from the United States, and there should be no excuse for any great rise in the prices of material we can bring across the Atlantic.

Architects can do their part by straining more than ever the efforts they constantly make to keep down the cost of the buildings they design, and their employers can help by cheerfully facing the prospect of the necessarily enhanced cost of building, which, however, if we all pull together need not be great, and will but be a small premium paid for assisting the country to ensure our future safety and independence.

The duty of us all is to

CLOSE UP THE RANKS AND KEEP THINGS GOING.

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NOTES AND COMMENTS.

The conditions of the competition for the Federal Parliament House at Canberra for the Commonwealth of Australia have now been issued, and we are pleased to note that there is a clear distinction made between "conditions" that are mandatory, failure on the part of a competitor to comply with which will exclude his design, and "instructions" which are advisory, and contain no recommendations that need be considered mandatory. This is just as well, since "it is desired that the standard of design be the expression of actual functions through practical organic planning; through the direct adaption of the inherent characteristics of the materials used, avoiding the intrusion of irrelevant features, however time-honoured, on the one hand, or individual on the other." Competitors will thus readily understand the "style" which they are advised to adopt, but will be relieved to know that the advice is not "mandatory."

The increase of the practice of cremation is likely to render important as a precedent the result of an application to the Liverpool Consistory Court by the Rev. Leslie Rimmer Paterson, vicar of All Saints, Speke, for permission to make an excavation and to construct a small chamber beneath the floor of the sanctuary in the church, and to place therein a cinerary casket, containing the ashes of his late wife, the excavation to be large enough to contain a similar casket for the ashes of her husband, and to be covered with a stone bearing the initials and date of death of the deceased.

Mr. H. Chaloner Dowdall (Chancellor of the Diocese) granted the faculty, but said as petitions of that kind were still rare, and that was the first to be made in that diocese, he proposed to make some observations upon it. He pointed out that in 1884, Mr. Justice Stephen determined that cremation was not a criminal offence unless conducted with the object of avoiding a coroner's inquest or in such a way as to be a *nuisance*, and in 1894 Chancellor Tristram determined that cremation, although not contemplated by ecclesiastical law, was not contrary thereto, and this decision had *never* been disputed.

Turning now to the question of interment within a church, it was, of course, well known that such interments were not uncommon until the middle of last century, but they were now, on sanitary grounds, very generally prohibited, and the question arose in 1894 as to whether the statutes and orders prohibiting burial within a church applied also to the burial of ashes following cremation, and Mr. Asquith, who was then Home Secretary, having formally ascertained that the Building Act of 1828, the Public Health Act of 1875, and the Burial Act of 1853 did not apply to the burial of ashes within a church, which was therefore lawful even in cases where these Acts would render the interment of a body unlawful, there was now no question that the Ecclesiastical Court had jurisdiction to grant faculties in proper cases for the interment of ashes within a church.

Mr. Brodie, the city engineer of Liverpool, may perhaps be excused that in reading a paper before the Congress of the Tramways and Light Railways Association he exalted the function of tramways and contended that very wide main thoroughfares, from 80 to 100 feet wide, are required; that subways are rarely if ever desirable, provided, of course, the streets are properly widened and tramway facilities provided; that tramway speeds must be at least doubled; that the tramway tracks and thoroughfares must be protected; that fewer stoppages are desirable; and that the trams themselves must be improved. In view of the development of motor traffic we should prefer to endorse only so much of Mr. Brodie's proposals as the provision of wide main roads, with arrangements for the separation of the lines of fast and slow traffic. The advantage of such roads is, however, negatived unless provision is also made for pedestrians to cross the fast lines of traffic without stopping it.

The proposal of the Cumberland County Council Highway Committee to substitute a ferro-concrete structure for the present Greta Bridge at Keswick has aroused well-merited opposition, the grounds of which were well expressed in the words of Sir John Randles, who proposed a resolution at a meeting held at Keswick, and presided over by Canon Rawnsley. As reported in the *Manchester Guardian*, Sir John Randles said they were met to protest against the destruction of one of the ancient and historic landmarks of the Lake District, which went to make up the peculiar charm of old Keswick, and brought into their midst the lovers of the picturesque, who came from all parts of Britain and the New World to visit them by reason of that very charm. They protested also against the unnecessary expenditure of the ratepayers' money involved in the destruction of Greta Bridge and the substitution for that picturesque old, but still substantial structure, which could be widened, and its gradient improved on the north side on its present lines for the sum of £650 to £700, of a new bridge of ferro-concrete for the sum of £2,600. As to its picturesqueness and its associations with the poets of old time, he would say little, because he did not think the majority of the members of the Highway Committee cared at all about these things. For more than two hundred years, probably for three hundred years, that bridge had been the servant of the people. It was so venerable and beautiful a structure in the eyes of Sir George Beaumont, Wordsworth's great friend, that at the beginning of last century it was the subject of his first oil painting, which he exhibited in the Academy of that day. Samuel Taylor Coleridge delighted in it, and for forty-two years it was looked down upon by Robert Southey; and all lovers of these poets have since their day visited it, not only by reason of the exceeding beauty of the view from its crown over the river and Crosthwaite vale, but because of its proximity to Greta Hall. They in that district lived not so much by the motorists who rushed through it, as by those who came to dwell in their midst by reason of its artistic charm. Ferro-concrete was a material which had nothing at all in common with the Lake District.

We are pleased to hear that the Beaux-Arts Committee have now obtained suitable premises for a second atelier, which will be opened in the autumn, and that Mr. A. R. Jemmett, F.R.I.B.A., has accepted the position of patron. Communications from those desirous of joining should be addressed to Mr. Adrian Berrington, at the first atelier, 16 Wells Mews, Wells Street, W.

Thanks to the combined efforts of the Yorkshire Archæological Society, the officials under the Society for the Preservation of Ancient Monuments, and the Duchy of Lancaster, the great Roman Road, which runs over the property of the latter on Wheeldale Moor, near Goathland, has been carefully bared in sections and laid open to the public view. Notice boards have been put up, and everything done to protect the same. If this had not been taken in hand at once before long it would have been too late, and this splendid relic of the Roman occupation of Yorkshire would have been a thing of the past.

ART IN LONDON.

Exhibition of Original Etchings at the Fine Art Society.

The work of nineteen artists has been brought together to form this engaging exhibition, and of these the best are Sir Frank Short, R.A., Messrs. A. Legros, H. C. Brewer, A. Bentley, H. Hillier, and Anders Zorn. Good work is to be seen amongst the others, but the artists mentioned above may be regarded as masters of their craft, even if not on the plane of men like Axel Haig and Mortimer Menpes.

Sir Frank Short's etchings after De Wint and Turner show a rugged, or rather a vigorous style of the greatest capacity. "A Yorkshire Hayfield," being especially fine. Of course, to those interested in an architectural journal the

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productions of H. C. Brewer must always hold a powerful and special appeal, and his etchings here shown of St. Martin's (Salamanca), Milan and Toledo Cathedrals, and St. Jacques at Dieppe have no superiors and not many rivals in the whole exhibition. Mr. Alfred Bentley manages his chiaroscuro almost too well at times, but there is a finish in his style that is even the more apparent by the contrast with M. Bauer's works adjoining, which are altogether too blurred and sketchy, though the artist well understands massing.

The many-sided Alphonse Legros is seen to great advantage in six of the exhibits, but the seventh (so called La Orage) is very unsatisfactory in its storm-cloud treatment. Mr. Herbert Hillier, a brilliant stylist, is represented by excellent work; in his case, however, we wish to draw attention to the uncouth effect, pictorially regarded, of the foreground truncated column of La Madeleine in the sketch showing a view of Paris. M. Zorn in a different style is represented by most capable work, particularly good being "Eka" and "Dojs Matz"; the portrait of the Crown Princess of Sweden is produced in too coarse a line to be satisfactory, clever as the work may otherwise be.

Mr. Mulready Stone and Mr. Oliver Hall are represented by work of mixed value; "The Cottage Window" by Mr. Stone is a dainty little sketch, and his "London Chimneys" renders interesting what is in reality an uninteresting subject; "Strand Lane," too, is excellent work. Mr. Hall's "Bardsea Village" and "Durham Cathedral" merit the cachet of approval. Mr. Lee Hankey is represented by poor subjects, indifferently treated, whilst some of M. Poortenaar's work is bold and masterly with a grasp of the value of mystery.

Altogether a great fund of pleasure and profit is to be obtained by a visit to this exhibition.

R.I.B.A. PROBLEMS IN DESIGN.

THE designs submitted under Subject XV. will be on view in the rooms of the R.I.B.A. on August 10, 11, and 12 inclusive between the hours of 10 A.M. and 6 P.M.

COMPETITION NEWS.

CHORLEY.—In response to the invitation to local architects to send in competitive designs for a special subjects centre to be erected in Queen's Road, the Education Committee have received only one design—from Mr. W. Angill Dinsley—which they have adopted. The cost of the scheme will be about £1,900.

EDINBURGH.—The directors of the Edinburgh Young Men's Christian Association have appointed Mr. G. Washington Browne, R.S.A., to be architect for the new premises to be erected at 14 South St. Andrew Street. The whole building is to be taken down, and an entirely new building, occupying the entire area at the disposal of the Association, erected in its place. Mr. W. T. Oldrieve, H.R.S.A., F.R.I.B.A., acted as assessor. Messrs. Fairbairn, Lightbody & Low, F.F.S., have been appointed measuring surveyors.

ILLUSTRATIONS.

EXTENSION OF REFUGE ASSURANCE COMPANY'S OFFICES, MANCHESTER.

WE conclude our series of illustrations of this work, carried out from the designs of Mr. Paul Waterhouse, with views of some of the interior detail.

CATHEDRAL OF ALTAMURA.

THE cathedral of Altamura shows the characteristic Italian Gothic work of Apulia.

KING'S COLLEGE, CAMBBIDGE.

WE give another example of detail from this college drawn by Mr. H. St. John Harrison during his tour as holder of "The Architect" Travelling Studentship for 1913.

SALL CHURCH, NORFOLK.

THE church at Sall is one of the finest churches in Norfolk, and is throughout of fifteenth-century date. It consists of chancel, nave, transepts, and north and south porches with parvises. The west door is original, and so are the doors to stairways of both porches. The pulpit, as may be seen from our illustration, is small but of excellent design. It was originally painted, but the decoration has been unfortunately defaced.

ROYAL ARCHÆOLOGICAL INSTITUTE SUMMER MEETING.—IV.

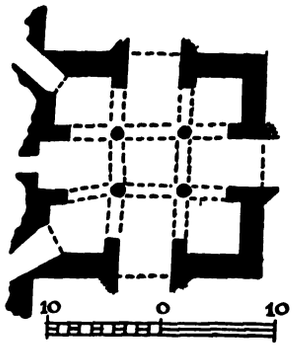
Saturday, July 18.

A START was made to a very full programme at 8.45 A.M. sharp from the Midland Hotel with a motor run of seven miles in a south-westerly direction to

REPTON CHURCH.

Although Repton is now familiar solely as being the habitat of a public school, it is a town with no mean history. At so distant a period as the Saxon Heptarchy Hreopandun or Reopandun is frequently mentioned in the scanty chronicles of the times. It was the capital of Mercia with a palace of the Saxon monarchs. Here Diuma, the first Bishop of Mercia, established his see in 658, and here there continued an important monastery for both sexes which fostered Christianity in Middle England until attacked by the Danes in 874, who plundered it of all treasure. It was refounded in 960, and to this period a considerable part of the present church belongs. It consisted of a middle tower, square presbytery over a vaulted crypt, and transepts. The crypt and presbytery remain complete as well as the east side of the north transept up to the sill of the later window. The nave was rebuilt in the thirteenth century. In 1340 the middle tower was removed and a new one with an exceptionally slender spire rising 200 feet built at the west end, the aisles being widened at the same time. Later in the century a chapel was built on the south side of the chancel. In the fifteenth century the south porch was built, a clerestory added to the nave, and the roof renewed.

After Mr. Brakspear had described the structural development some further comments were added by Sir William Hope. In alluding to the usual statement that Repton, like so many other churches, was "destroyed" by the Danes, he said he was always very sceptical about the possibility of any such destruction unless one assumed that all the buildings were of wood—which was hardly likely. If, on the other hand, they were of stone, what was there to destroy? There were no pews and little or no wood fittings; the altar would be of stone, as also would the font. The only combustible things were the doors and the roof. Fire in such a



REPTON CHURCH: PLAN OF CRYPT.

church would have very different consequences to what happened at Breadsall a few months ago. There the interior was full of combustible things. Moreover, at a fairly recent restoration the plaster had been removed from the walls, with the result that the stone got scorched and shivered by the cold water from the fire engines. If the fire brigade had not been at Breadsall the destruction would not have been so great. One reason why so much of York Minster was saved at the great fire there was that the supply of water failed. In a church like Repton it would be difficult to set fire to the roof.

Directly beneath the chancel is the remarkable crypt 17 feet square, which is generally claimed to have belonged to the earliest monastery. More probably it dates from 960. The vaulted stone roof is supported by four circular pillars, spirally wreathed, with square capitals. The entrance to this crypt from the church is by means of stairs at the west angles; that in the south transept has been blocked up by the organ. On the north, south and east faces there are recesses covered by stone gables, which may have been for tombs. The entire crypt was lost sight of till 1779, when a grave was being dug in the chancel. Its vault was then cut through and the grave digger fell into the crypt.

Sir Henry Howarth, the President, gave a brief sketch of the history of Mercia—a difficult problem which has engaged

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much of his attention of late. One of the points he emphasised was his conviction that no Saxon church built in the seventh century could have been a stone one. It was therefore not possible to believe that the remains of the present church incorporated any stone building of that early date.

The vestry screen in the south transept is worth attention, for it is partly made up of interesting pew ends of 1344.

Close to St. Wystan's church is

Repton Priory.

In going back for the earliest history of this priory it is usual to start with its legendary founder—St. David—and with A.D. 600 as a date. But serious archæologists prefer firm ground and therefore begin at a date about the Norman Conquest when a priory of Black or Augustinian canons, dedicated to St. Giles, was founded at Calke by an Earl of Mercia. Little or nothing is known about this establishment beyond the fact that it had an existence of at least a century, and that they established a cell at Dale Abbey. About 1160 Maud, the widowed Countess of Chester, with the consent of her son Hugh, granted to the canons the working of a quarry at Repton, together with the advowson of the church of St. Wystan, at Repton, on condition that as soon as a suitable opportunity should arise the canons should remove thither. Repton Priory was accordingly founded soon after, and Calke thenceforth became a cell of it. Very few events have been handed down to us in connection with its story. The priory stood just to the east of the parish church, and the site is still partly enclosed by its old stone wall and entered through the outer arch of the fourteenth century gateway.

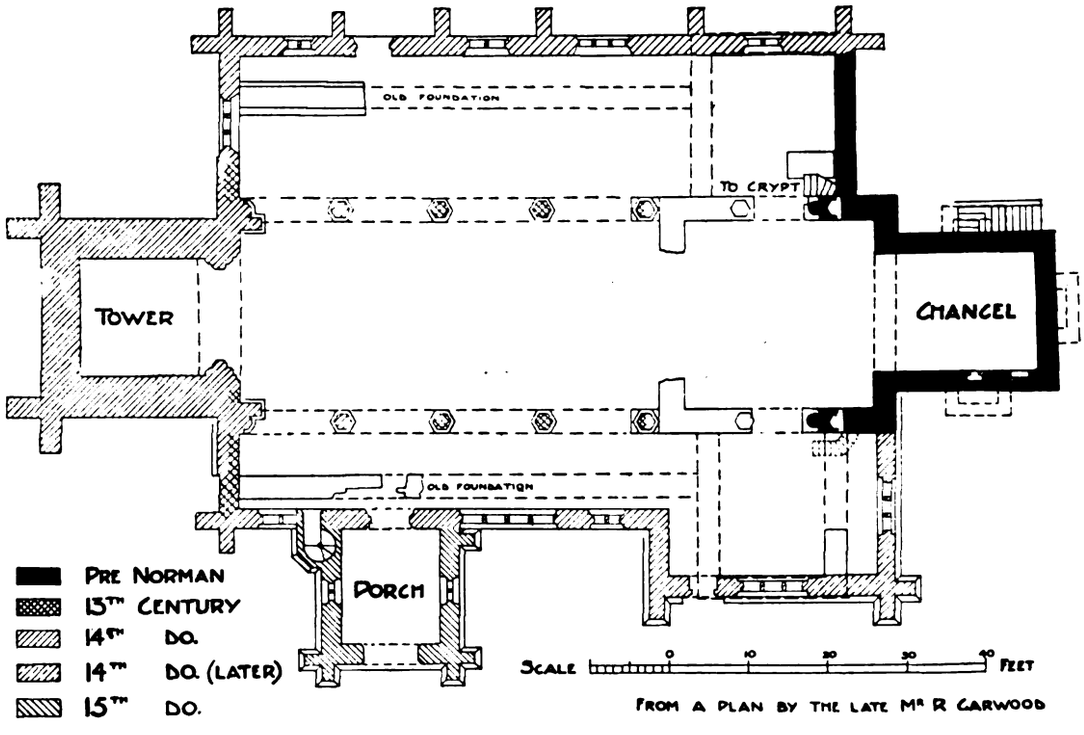
In 1535, said Sir William Hope in his account of the building, "those notorious men, Doctors Thomas Leigh and Richard Layton, had visited Repton and gave the amount of the revenue as £180 per annum." They noted that the canons were not living up to their vows. Under the heading of *superstitio* it was reported that pilgrims came to the priory to visit a shrine of St. Guthlac and his bell, which they were wont to place on their heads for a cure of headache. In the year following an Act was passed suppressing those monasteries in England with revenues less than £200 a year. Repton Priory was granted in 1538 to a Thomas Thacker who died in 1548, leaving the property to his son Gilbert. The latter, according to Fuller, "being alarmed with the news that Queen Mary had set up the abbeys again (and fearing how large a reach such precedent might have) upon a Sunday (belike the better day, the better deed) called together with carpenters and masons of that county and plucked down in one day (church work is a cripple in going up, but rides post in coming down) a most beautiful church belonging thereto, saying 'he would destroy the nest for fear the birds should build therein again.'" But, Sir William Hope remarked, there is no evidence of such a violent throwing down as Fuller records, and the like of which obviously occurred at Old Sarum and elsewhere. Thacker apparently converted the whole of the buildings into a dwelling-house. In 1559 part of it was sold for £37 10*s.* to the executors of Sir John Porte, of Etwall, who had been anxious to found a grammar school here, and was endowed with that knight's estates. The Thackers and the school seem to have lived amicably together for many years. But dissension began which culminated in 1652 in a case "The Master, &c., *v.* Gilbert Thacker and others." This was followed by other suits concerning the boundary line between the two properties.

The priory, as will be seen from the plan here given, follows a quite normal disposition, except for the fact that the cloister was on the north instead of the south side of the church owing to the river being on the north. The site was excavated by Sir William Hope for the Derbyshire Archæological Society in 1883-4. The priory church was found to have consisted of a presbytery with north and south aisles and a south chapel, north and south transepts with a tower over the crossing, and a nave with north and south aisles of six bays. The cloister and other buildings lay to the north, and the infirmary still further north, overlooking the Trent. At a later time the infirmary was moved to what had originally been the cellars with guest-room over. This *cellarium* was found by the excavations to be the only remaining part of the original Norman monastery, built when the canons migrated from Calke in the middle of the twelfth century. It is still complete to the roof as far as the structure is concerned, but the original round-headed windows, with the exception of one, have been superseded by larger ones, and sundry partitions and insertions have quite destroyed its ancient arrangements. The site generally has been so covered with buildings for the public school that its arrangements are difficult to make out. A fine brick tower of Henry VI.'s reign is incorporated into the head-master's house.

In levelling the cricket field a mediæval tile oven was discovered which still contained in its two small chambers about twenty different patterns of tiles. Some of these are in the library (formerly the guest hall), which also contains pieces of interesting glass.

After an account had been given in the Library of the rise and fall of the Priory the members of the Institute were shown over such portions of the monastic buildings as have been incorporated into Repton School. They do not amount to very much. In the increasing prosperity of the school

Repton Church, Derbyshire.



From a plan by the late Mr R Garwood

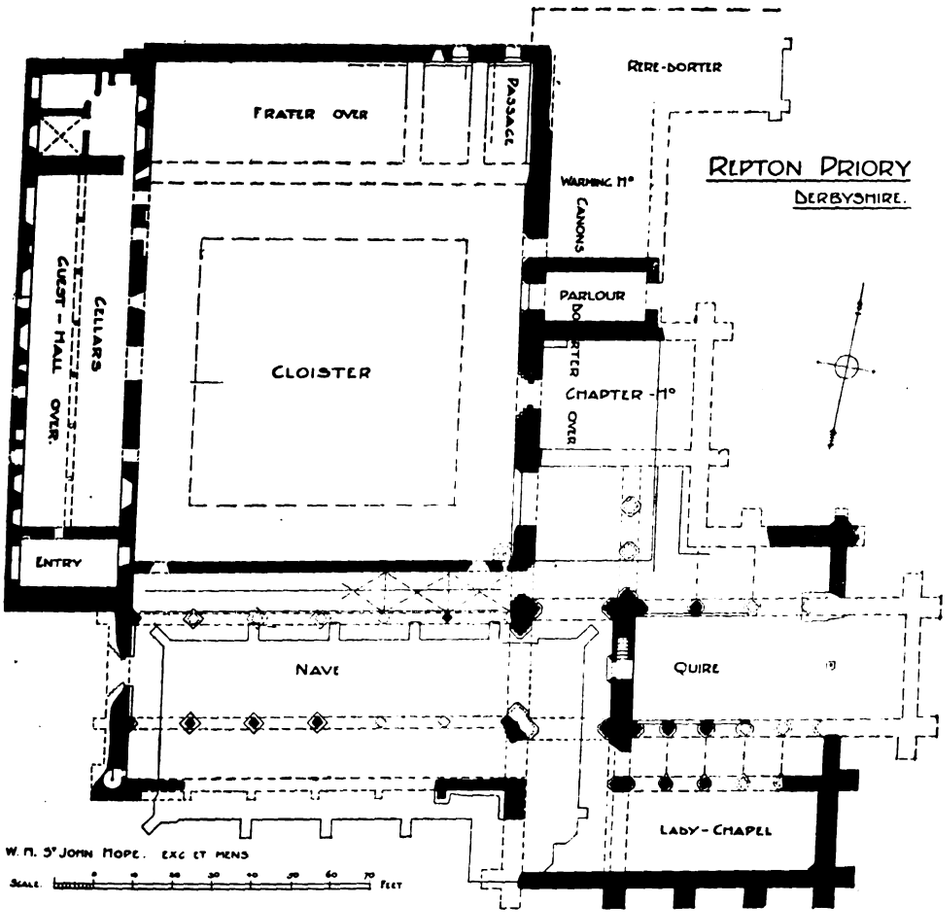
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extensions have been called for, and in the provision of these the old work has suffered.

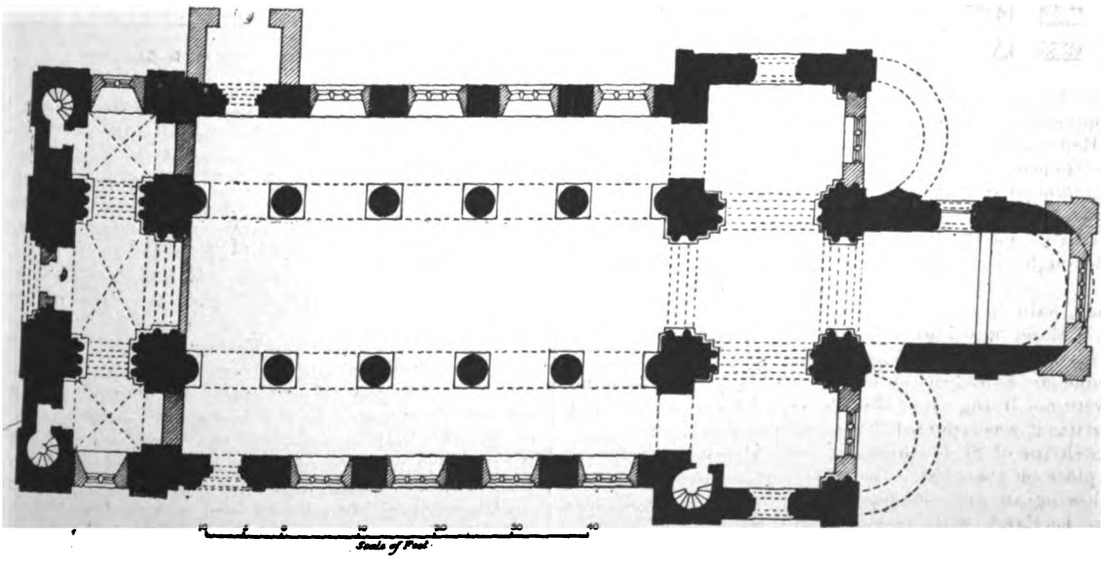
The next place on the programme was

MELBOURNE CHURCH.

This is a most impressive example of twelfth century building. Melbourne, as Mr. Brakspear pointed out, is a fine contrast to Repton Church, inasmuch as the latter offers archæological puzzles, the former architectural ones. The whole of the church is virtually of one date, but whilst the work was going on changes were made in the usual mediæval fashion. Unfortunately the plan we reproduce from an early in an apse which in the fifteenth century was made square on plan. This tendency towards squaring apsidal chancels and designing new ones as rectangles was continuous from the middle of the twelfth century. The transepts here had apsidal chapels to the east, but these have totally disappeared. Originally the chancel had the very unusual feature of an upper storey—somewhat after the fashion of the tribune at the west end to-day with which it communicated.



The erection of this eastern portion of the church is judged to have gone on without interruption. When it came to the nave the builders, said Mr. Brakspear, were apparently very much divided as to whether they would give a vault or a



MELBOURNE CHURCH.—Reproduced by permission from "Archæologia," Vol. xiii.

volume of *Archæologia* is inaccurate in some of the details, but it will serve our present purpose. It shows correctly that the church consists of nave, chancel, aisles, transepts, middle tower, and two low towers at the west end with a vaulted portico or tribune between them. Above this portico is a gallery opening into the church. The chancel terminated wood roof. The only change made to the twelfth century church was in the following century when from fire or other cause the principal portion of the south wall was rebuilt. The richly ornamented nave arches are stilted semi-circles carried on massive round piers. Above them are arcades opening on clerestory windows. The massive and beautiful

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central tower has internally three storeys of arcades. Most interest, however, centres in the west end, which, as was not unusual in the larger Romanesque churches of Normandy and England, had a tower at the termination of each aisle. These low towers have a simple groined vault and the nave space between them also has a groined vault, the upper surface of which provides an imposing gallery. In concluding his account, Mr. Brakspear said that Melbourne was at one time a very important place. There was a church and priest here at Domesday. In the twelfth century it was granted to the Bishop and convent of Carlisle, which fact may account for the magnificent scale, though it was never anything but a parish church. The Bishops of Carlisle had a palace at Melbourne.

M. Eugène Lefèvre-Pontalis, Directeur de la Société française d'Archéologie, Professeur d'Archéologie à l'Ecole des Chartes, pointed out that similar western tribunes are fairly frequent in French Benedictine churches of the period, but not in parish churches. He suggested that it might have been used as the pew of some grand signor. As a fact John, Duke of Bourbon, was imprisoned at the royal castle at Melbourne for nineteen years after his capture at Agincourt.

Sir William Hope wished there was an explanation as to the use to which this western porch was put. At the time when it was built ritual would no longer require it to be reserved for catechumens or those possessed by the devil. The only suggestion he could offer was the rather far-fetched one that the choir boys were put there on Palm Sundays in connection with the processions. Such a practice was extremely common and accounted for the traces of galleries to be found in many churches. But such a purpose did not call for a substantial work like this at Melbourne. In conclusion, Sir William Hope said there could be no question that the stone surfaces had been in Norman times plastered and the whole church whitewashed from end to end, which would give it a beautiful appearance. The Abbot of St. Albans boasted that his church was like "driven snow."

Mr. John Bilson expressed the opinion that neither the nave nor the aisles were ever intended to be vaulted, the slight shafts up the inner face of the nave walls were only there for decorative purposes.

Mr. A. Hamilton Thompson suggested a possible reason for the size of the church was that the Bishop of Carlisle intended to establish at Melbourne a large college of secular canons.

After lunching the motor journey was resumed till the party reached

Breedon Church.

Those Austin canons who founded on this Leicestershire hill a priory, of which the present church is sole survival, certainly chose a commanding view. Perhaps it served to symbolise both their earnest desire for heaven and their aloofness from the petty affairs of men. As seen to-day the church stands completely isolated on its rocky eminence of mountain limestone, bare of trees or bush, with the village at its foot. Its sturdy, almost harsh, outline combined with the formidable aspect of the climb-up might daunt anyone ignorant of its real interest from visiting it.

The site was given, according to Mr. P. B. Chatwin, F.R.I.B.A., who described it, about A.D. 1144 by Robert de Ferrars, Earl of Nottingham, to the Augustinian priory of St. Oswald at Nostell, Yorkshire. Soon afterwards the priory was founded as a cell to Nostell and dedicated to St. Mary and St. Hardulph. The eastern portion only of the church now survives, consisting of the choir, aisles on either side, and a tower at the west end, with a transept building, presumably a chapel, on the south side. Most of the fabric dates from the thirteenth century. At the Suppression the priory buildings were purchased from Henry VIII. by Francis Shirley, an ancestor of the present Earl Ferrars, as a burial place for himself and his successors. The existing part of the church was granted to the parishioners of Breedon (on their petition) with full liberty to make use of the same for and instead of their parish church, hitherto adjoining, which was then practically in ruins. The north aisle was reserved as a mortuary chapel for the Shirley family. For the next two hundred years practically nothing was done to the fabric beyond a lead roof in 1713. Three builders were asked seventy years later to give reports and estimates for repairs. That of one of the unsuccessful tenderers has been brought to light by the present Vicar. This report shows that the columns and arches were taken down and rebuilt, the south groining was removed, the south aisle windows were repaired, and a "Venetian" window was inserted at the east end with a circular one over (the unsuccessful man suggested a handsome Gothic window). The total cost was £352 9s. 10d.

A unique feature of the building is the occasional small panels of late Norman workmanship which appear promiscuously outside and inside. Their minute scale would suggest an original position much lower—say, at the level of the window-sills—than now. It was suggested by Sir William Hope that they might have originally belonged to the sides of a font. Another special delight in the interior is the Shirley aisle, divided from the nave by the old cast-iron railing, with its important family monuments and large family pew (1627). One of the alabaster tombs is notable for the fact that it is one of the very few for which the original contract remains—another is at Lowick, Northants. But whereas the latter was between "Kervers" living in Chellaston, the Shirley contract, which is about 150 years later, gives Burton-on-Trent as the craftsman's shop. It is, of course, known from other sources that this great English industry, with an export trade extending to Iceland, did in course of time leave its original Derbyshire home. The monument at Breedon was to be "a very fair" one for which £22 had to be paid in three instalments.

This church illustrates difficulties which to-day face those responsible for such buildings. At present it retains all the closed-in pews. These are of no artistic merit, but they are a legacy from and recall other times. From that standpoint they ought to be kept. The Vicar, on the other hand, declares that it is impossible to conduct a reverent service in the house of God so long as they continue in use. Again, the "Venetian" window above mentioned, which at any rate demonstrated Georgian ideas of church work, has been lately replaced at the east end by very correct lancet windows. Again, for church work it is desirable to open up the lower storey of the tower to the west wall by removing the present division on its east face.

Lovers of contrast must have found pleasure in the abrupt transition from Breedon Church, wind-swept and isolated, to the snug private chapel at

Staunton Harold,

where everything speaks of a leisured ease—at any rate at the present time. As a fact the existing building owes its existence to a born fighter. According to a tablet over the western porch: "In the year 1653 when all things sacred were throughout ye nation either demollisht or profaned, Sir Robert Shirley, Barronet, founded this church, whose singular praise it is to have done the best thinges in ye worst times and hoped them in ye most calamitous. The righteous shall be held in everlasting remembrance." This Sir Robert Shirley (1629-1656), fourth baronet, was an ardent loyalist. In 1646 he took up arms for the King after the execution of Charles I. and he was constantly involved in plots for the restoration of the monarchy. On May 4, 1650, a warrant was issued for his committal to the Tower. Later he was released on finding two securities in £5,000. But he continued to conspire against the Commonwealth and was several times imprisoned. He died in the Tower in 1656 and was buried beneath the chancel of the church at Staunton Harold which he had rebuilt. By his will he left £1,000 for the relief of persons distressed for their loyalty to Charles II.

This chapel consists of a nave of three bays with aisles and clerestory, a chancel and a west tower with organ gallery and entrance under. A wooden chancel screen seems to have been removed in favour of the present wrought-iron screen (probably by Bakewell, of Derby) about 1712; the old kneeling desks have given place to a modern altar rail, and the plaster has been stripped from the walls, otherwise the chapel remains practically as it was at the time of the Rebellion. The organ (by Father Schmidt), the font, panelling, pews, pulpit, altar, altar cloth and cushions, and communion plate are all original. An unusual feature is the timber inner order to the tower arch—which may be part of the original screen—and the wood casing for the nave piers. The ceilings of nave and chancel are boarded and painted with clouds, possibly meant to suggest Chaos, and on the nave ceiling may be seen the signature "Saml. Kirk, 1657." The stonework is signed behind the nave parapet "Shepherd artifex." Round the parapet of the chancel runs the inscription "Sir Robert Shirley, Baronet, founder of this church, on whose soul God have mercy."

Earl Ferrers, F.S.A., in the short account he gave of his private chapel, commented on the fact that there was a good deal of Gothic feeling about it as a whole, though the woodwork was quite typical of its time. The iron screen is the only prominent thing which is of a different date from Sir

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Robert Shirley's work. There seemed to those who used the church, he said, to be a good deal of personal feeling about it. It was erected on a rather big scale possibly because the parish services at Breedon were not carried out on the old lines. The Commonwealth authorities told the baronet that if he could afford to build a church he could provide money for a ship, and he was obliged to do it. Some old usages were still maintained in the services. The sexes were separated, the men sitting in the south and the women in the north side. At the Sacrament the women received first. The bidding prayer was kept up.

Sir William Hope also emphasised the point that the chapel was a very remarkable example of the continuity of tradition; instead of it being erected in the style of its period it was an imitation of what could be seen round about. The greatest loss which it had suffered was when the plaster was scraped off, for the rough walling was never meant to be seen. The altar plate was very noteworthy. As a personal confession he might add that his father, when chaplain here, was responsible for taking down the tables of the Commandments and setting them up later in his church at Derby.

The present Earl Ferrers is, of course, a practising architect. Possibly he may be more familiar to the profession personally under the name of Mr. W. Knight Shirley, for he has only enjoyed his present rank for two years consequent upon the death in July 1912 of his kinsman, Sir Sewallis E. Shirley, tenth Earl Ferrers and Viscount Tamworth. His lordship, after a distinguished career at Winchester and Oxford, became in 1888 a pupil of Mr. Basil Champneys, B.A. In 1891 he joined the Architectural Association, later winning both the A.A. first medal and the silver medal for essays at the R.I.B.A.

The Shirley family is one of the most ancient in the country, and has been traced back to the time of Edward the Confessor. It is sometimes said there are only two English families, both of whom are local ones, who can prove descent absolutely from the time of the Conqueror—viz., the Shirleys and the Gresleys.

The house is, as to its exterior, quite remarkably devoid of interest. It owes its existence to Washington Shirley, the fifth Earl (1722-78), who sold the family estates at Astwell, Brailsford, and Shirley, and out of the proceeds rebuilt the house in the fashionable Classic style, wasting little money on ornament.

The return journey to Derby was made *via* Melbourne, where a halt was made in order to take tea in the charming vicarage garden by invitation of the Rev. L. P. Robin. After that refreshing interlude the journey was again broken at

Swarkeston Bridge.

Here Mr. W. Smithard gave an account of the structure. As a local man he was justified in claiming this causeway or viaduct, which is about two-thirds of a mile long, as being of unique historical and architectural interest. It forms a raised highway well above the flood level of the low-lying meadows between the Trent and the village of Stanton. No record has come to light of its actual building, and the earliest reference is a complaint in 1275 that the merchants of Melbourne had withheld the passage money and tolls. Two of the arches are of this period; they are 11 feet wide by 8 feet high. The general direction of the bridge is north and south, but it contains a number of gentle curves, and throughout its course displays irregularities which indicate its mediæval origin and add to its charm. The scheme is a series of small bridges on open arches—to let the flood water through—connected by long lengths of solid masonry. Ignoring those over the Trent itself there are in all thirty-eight arches, but of these eleven are practically modern culverts and a further nine are probably a century old. The remainder range from the thirteenth to the sixteenth centuries. Eleven of these mediæval arches were underpinned with blue bricks in 1899. Most fortunately the County Council did not rebuild them. The bridge shows signs throughout of having been widened from 12 feet to 20 feet, rather more in some places, and the roadway must have been raised considerably. Most of the parapet wall is not more than sixty years old. There was formerly a chapel on the bridge over the Trent which was served by a priest from Repton. The present handsome stone bridge dates from about 1800. In the Middle Ages there was no other bridge across the Trent between Burton and Nottingham and it was of great importance in facilitating communication between Derby and places south of the Trent. In December 1745 an advance guard of the Young Pretender's Army reached Swarkeston Bridge, which was the utmost limit of the invasion. The main body of the 5,000 troops did not proceed further south than Derby, but commenced their retreat to Scotland from that town.

(To be concluded.)

TOWN PLANNING AND GARDEN CITIES.*

By Tom G. Lumb, A.M.Inst.C.E.

At the present time there is the greatest need for the adoption of the Housing and Town Planning Act, 1909, by the authorities, especially in suburban districts, caused largely by the increased and cheap facilities for transit, due to the tramway extension of the last few years, and which will be still further accentuated by the introduction in the near future of extended use of railless traction.

Up to the present day little or nothing has been done by local authorities to alter the state of affairs, even with all the advantages gained by the adoption of the Act.

New roads, where traffic is likely to increase, ought to be designed on liberal lines, especially in and around seaside resorts.

In towns and cities where there are ground landlords, and if the laying out is in capable hands, there are possibilities of a most satisfactory scheme being evolved without the adoption of the Act; but even where an area is under one control, very often the desire to extract the maximum profit ends in a failure and unsanitary property. In the case of the individual owner he not unnaturally lays out his own land to obtain the maximum amount of profit, and to enable him to use every yard possible for building purposes, and often from the very selfish desire to shut out the neighbouring owner, where possible, from convenient access to the centre of the town, causing serious inconvenience and expense to the community. This has been done, unfortunately, in most towns, and if the authorities do not take immediate steps to alter this state of affairs the suburban developments will be ruined.

In the laying out a building estate may be crowded with small ugly dwellings, ill-built and huddled upon each other with grudged observation of the municipal by-laws, or, it may, by the display of forethought and the recognition of due responsibility by the landowner, be made to glow with health and happiness.

The difficulties I see, especially in a borough like Blackpool, in adopting the Act, are that any schemes of town planning in the suburban areas would naturally be the areas next the developed parts of the town, and as the speculative builder has reduced house-building to a science, he will take the sites that will yield the best return, and cannot afford under the present conditions of building to give more than a minimum amount of land per house; this would tend to defer the development of the town-planning area and would drive the builders to areas outside the area affected by such limitations, and probably in some cases to outside rural authorities, who would derive all the benefits of the open spaces of the scheme and all the usual facilities of tramways, parks, baths, &c., and would also benefit by their increased rateable value.

The whole of the land in the county borough of Blackpool, with few exceptions, is owned by private individuals in very small areas. In scores of cases each owner has laid out his land without any thought for the convenience of the community at large, and even when their agent or surveyor has urged a liberal spirit in the laying out of the roads, &c., the desire of the owner to shut out others to avoid competition has outweighed other considerations.

The inconvenience to residents and traffic generally is enormous, and means large increase in cost, due to the extra length of sewers, gas, water, electric mains, lighting, &c., and also the increased cost for refuse-collecting and serious danger in case of fire.

The solution of the difficulties in town planning, so far as this district is concerned, would (in the author's opinion) be the inclusion of the adjoining urban and rural areas and the laying out of main trunk roads and the necessary open spaces and sites for public buildings, and then allow the individual owners to lay out their own land; as the subsidiary roads could not but be suitable offshoots, this would obviate risk of unfair competition with the various owners if small areas were dealt with at various times.

This is very clearly demonstrated by the laying out of the route of the Lytham trams and Clifton Drive south of

* Abstract of Paper read at the Royal Sanitary Institute Congress at Blackpool, July 1914.

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Blackpool, and the Blackpool and Fleetwood tramroad and the King and Queen's Drive, north of Blackpool: all the subsidiary roads and offshoots from these main roads are reasonably planned. It is a fact that the best town-planner is either a light railway or tramway, which renders accessible the outer districts, thus spreading the population over far greater areas. This has been most noticeable with these two tramways.

Since the opening of the Blackpool and Fleetwood tramroad the population of the three townships through which it passes has largely increased.

Many people have the idea that it is only necessary to provide the power as given by the Housing and Town Planning Act, and estate owners will at once commission surveyors to prepare plans for laying out estates, whether commercially required or not, and that fine boulevards will be laid out and beautiful buildings constructed immediately; but towns, with few exceptions, develop on commercial lines and in a piecemeal manner, and if local authorities concentrate their efforts on obtaining fine trunk roads they can safely leave the individual owner to lay out his own land. A reasonable proposition would be for the Corporation to make the trunk roads of sufficient width, the landowner to give the land necessary for the construction of the roadways, and contributing to the cost thereof the expense of the construction of an ordinary statutory road. The Corporation should not lodge a claim for betterment, nor the landowner any claim for compensation.

Owing to the large number of owners of small estates, the Blackpool Council have been faced with a great problem, and under their existing by-laws have in many cases been unable to enforce the development of roads, &c., on liberal lines. Most of our roads, with the exception of the Promenade, which has been widened at a cost of over £300,000, are not wide enough for the enormously increasing traffic, due to motors and motor-bicycles and side-cars. Last year the influx of this style of traffic on the main roads was enormous.

Blackpool must deal with this question of road widening in the very near future if she is to reach the enviable position that she aspires to, and to live up to her motto of Progress. At present there are large numbers of estate companies, syndicates, and private owners of small estates, all developing without any consideration of through intercommunication which ought to be brought into line, and for the credit of our town be liberal where the main trunk roads are concerned.

The township of Bispham is being developed on its seafront. Two estate companies, owning the land between Blackpool and Norbeck, have laid out a main trunk road, King and Queen's Drive, parallel with and on the east side of the Blackpool and Fleetwood trams, 52 feet wide, with a building line of 45 feet, and a grass promenade between the tramroad and the sea, the tramroad having a double sleeper track. The cliffs are used by thousands of visitors and residents of Blackpool; unfortunately erosion is taking place rapidly, and unless something is done soon the finest asset the districts have will be washed away.

The effort of the author was to have a fine marine drive from Blackpool to Fleetwood, parallel with the trams, but owing to the action of one owner of a small area of land the scheme is blocked at Norbeck. Had the scheme been carried through, the distance by road from Blackpool to Fleetwood would have been reduced by two miles.

The improving of the main road between Blackpool and Fleetwood is not receiving the attention it should. The whole of the road traffic from the North and South and Midlands has to come to Blackpool *via* Preston and Kirkham: this traffic has increased enormously in recent years, and in the very near future the question of a subway under the Wyre and Fleetwood, or a better bridge than the present Shard Bridge, to connect Lancaster and other towns north and east, will have to be considered.

At Cleveleys, in 1906, the author laid out a portion of the Fleetwood Estate Company's land for the purpose of an exhibition of houses, &c., and in attempting to describe its purpose and object I should like to acknowledge the influence of the Cottage Exhibition held at Letchworth.

The Cleveleys Exhibition may be described as complementary and supplemental to the Letchworth scheme. The houses are built of permanent materials, and under the building by-laws as commonly adopted in urban districts; although an exhibition of cottages, there is no limit of cost, the awards being made on cheapness in the sense of value obtained for money expended. Briefly, then, the object was eminently practical, and intended to show, not what could be done if the existing laws were modified, but what can be done to-day under the laws as they now stand.

The Thornton urban district by-laws may fairly be taken as representative, and are practically those obtaining in similar districts in Lancashire and Yorkshire.

In the great manufacturing counties there is not such an urgent need for the cheapest cottage, but there are large numbers of people who want inexpensive cottages or small houses whose requirements extend all the way from the artisan in the suburbs to the week-ender who wants a small country or seaside place of his own.

The Exhibition showed that it was possible to build commodious and sightly houses at a reasonable cost, and yet comply with the conditions referred to: Pleasing buildings, neatly modelled and substantially constructed, and attention paid to three of the most important factors in house-building—economy, convenience, and comfort. The fact that no limit was fixed in the cost of the houses gave an Exhibition which appealed to a very wide class.

The building plots were, in the first instance, marked out eight to the acre, but exhibitors in certain cases were permitted to buy two plots for one house, and this privilege has been exercised with good results.

To render the Exhibition as complete as possible prizes were offered for the best cultivated gardens, and neat fences had in every case to be erected by exhibitors.

The site of Cleveleys Park is convenient, being on the electric-tram line which runs from Fleetwood to Blackpool (Talbot Road Station), with a frequent service of cars in both directions. Cleveleys Village adjoins, although the railway station is some little distance away. The soil is a light marl, and, though flat, is dry and well drained, and affords good foundations. The bracing quality of the air is well known, and this part of the coast has long been a health resort. There is an efficient drainage scheme, a good water supply, and gas.

A good deal has been said about the hardships of the building by-laws in certain districts, and there are no doubt cases where restrictions verging on absurdity have been imposed, but at the same time it is widely held that with respect to minimum height of rooms and building material specified, the objectors to the by-laws have not made out their case. Where stone or bricks and mortar are reasonably cheap, as they are in Lancashire and Yorkshire, these well-tried materials compete favourably in cost of construction and maintenance with the patented and other materials which have been advocated in some quarters, and, with the exception possibly of concrete, the supremacy of bricks and mortar at present is not seriously threatened.

No limit of cost was fixed in the competitions, but the prizes were awarded for the best and most economical buildings; in other words, the best value for money. The general conditions as to building were those insisted upon by the Thornton Urban District Council, whose by-laws are approved by the Local Government Board, the points taken into consideration being external appearance, economy of planning, convenience, cost per cubic foot, small cost of maintenance, and repairs.

Prizes varying from £25 to £100 were awarded.

Class I.—For the best and most economical detached cottage, with not less than three bedrooms.

Class II.—For the best and most economical pair of cottages, with not less than three bedrooms each.

Exhibitors were required, prior to the opening of the Exhibition, to declare the price (including builders' profit) at which, under similar circumstances, they were prepared to duplicate the exhibits.

Prizes were also given for the best design and specification for a detached cottage, to cost not more than £180, to be built in accordance with the by-laws of any particular district to be specified by the exhibitor.

Also for the best design and specification for a pair of cottages, to cost not more than £350, to be built in accordance with the by-laws of any particular district to be specified by the exhibitor.

Prizes were also awarded for the best laid-out garden. Those competitors in Classes 1 and 2 who did not wish to compete in this class were required to allow their plots to be laid out as gardens.

Diplomas were also awarded for the best exhibits in the various trades connected with the building and furnishing of cottages.

Considerable development has taken place during the last eight years. Since the holding of the Exhibition houses ranging from £190 to over £1,000 have been erected, and

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the main avenue (west drive) has been asphalted, and the footpaths flagged with concrete flags; also the estate company have spent a considerable sum in tree-planting, and new tennis grounds, bowling greens, and club-houses have been opened.

Near to Cleveleys Park is Rossall Beach, laid out several years before the Cleveleys Park.

The Fylde coast is not industrial except in the salt-mining district of Thornton, and Rossall Beach is purely residential, and is designed as a model coast resort. In the centre is a large reserved space for tennis and bowling greens.

A concrete sea-wall designed and carried out by the author, including a promenade, has superseded the old wooden hulking. The face of this sea-wall is concave with a bullnose top, which forms a convenient seat its whole length. The cost of this wall and promenade was under £3 per lin. yard run.

On this estate there are no rows of villas all of the same design, with a grim aspect of assertive respectability. There is everywhere a sense of novelty and comfort, and a contrast to the stiff and prim formality of the architecture in some British seaside resorts.

The Dutch stoop is seen here and there, evidently a feature that is appreciated by the people who have come to reside in these houses.

Though the majority of the houses follow the same style, this is not compulsory, and purchasers may consult their own tastes within reasonable limits.

The new open-air sea-water swimming bath at Rossall School, recently designed and erected by the author, is 170 feet long by 120 feet wide, and is built of reinforced concrete. The bath has a capacity of over 500,000 gallons. The baths are filled by an electrical centrifugal pump with a total head of 25 feet and a capacity of 700 gallons per minute. The delivery pipe is 380 feet long and 9 inches diameter, and this pipe is also used for emptying the bath.

An interesting movement is under consideration between Rossall School and Fleetwood. An estate some 300 acres in extent, also near the sea, is being laid out for the building of cottages, with large allotments of land.

Fleetwood has a considerable artisan population, and the object of the promoters of this scheme is to attract the better class of artisans to live under more desirable conditions at reasonable rents, with opportunity of putting under cultivation a remunerative garden, which under the scheme would give permanent tenure. At the present time plots are laid out as allotment gardens, but the tenants are liable to disturbance owing to the rapid developments that are taking place; also the gardens are at some distance from their homes, which is not desirable.

Under the proposed scheme the cottage and garden would occupy from one-eighth to a quarter acre, and all the conveniences in the form of drainage, gas, water, and electric light would be provided.

Part of the lands included in the grant of Rossall embraced practically the whole of the Wyre Peninsula, and the north-east portion abutting upon the estuary was, until the middle of last century, uninhabited and uncultivated.

In 1830 Peter Hesketh succeeded to the estates, and in 1831 he adopted the surname of Fleetwood; and in 1838 he was made baronet. He early set himself to establish a town at the mouth of the River Wyre; he was the promoter of the Preston and Wyre Railway; in 1837 he promoted a dock company; and in 1842 he obtained an Act of Parliament for "paving, lighting, watching, cleansing, and otherwise improving the town of Fleetwood and the neighbourhood thereof, and establishing a market therein."

By this Act the government of the place was vested in a body of selected Commissioners, and thus Fleetwood became a town.

The town as laid out by Sir Peter Hesketh showed wide roads about 90 feet wide radiating from the Mount Grounds; these roads have a very dull and depressing appearance, because the eye falls upon wide stretches of cheerless roadway and pavement. This could be easily improved if the authorities laid out verges of grass and flowers protected by light fences—they are more beautiful and less expensive than macadam and flags.

The first house was built in Fleetwood seventy-five years ago; there are now 3,280 houses, with a population of 18,000.

The railway was opened in 1840, and a year after this the town assumed considerable proportions.

In 1846 the railway was taken over by the L. and Y. and L. and N.W. Railway. At that time Fleetwood was intended to be a pleasure resort, and in 1846 no fewer than 60,000 trippers came to the town for pleasure, the population that year being under 2,000. This year, 1846, marked the decadence of Fleetwood as a health resort as laid down by its founder, the town becoming a military centre and seaport. The Wyre Dock was opened in 1879.

The real progress Fleetwood has made is in its fishing industry, and at the present time the invested capital at Fleetwood in the industry was something like £1,000,000, and in a speech recently Mr. J. A. Robertson, the President of the Fleetwood Fishing Owners' Association, stated that the weight of fish landed at the port annually was 60,000 tons, valued at £600,000; the men employed numbered nearly 4,000.

A new ice factory has been erected, the capacity of the plant being 160 tons per day; other allied trades have been added, so that to-day Fleetwood is the most important fishing port on the west coast.

The local authorities have been alive to the rapid development of the district, and the estate company, with the co-operation of the council, are working to improve the laying-out of the newer portions of the town, and to materially improve the housing and well-being of the population.

Discussion.

Mr. Willis (Chiswick), in moving a vote of thanks to the author, said the difficulty at such meetings was to get people to give the benefit of their experience. He considered the paper was an extremely useful one. He did not quite agree with the sentence that very little had been done up to the present day in connection with town planning. Considering the difficulties which had to be overcome, he considered that a very great deal had been done. Throughout the country many local authorities had passed resolutions in regard to the matter, although he agreed that was only the commencement of the difficulty. The serious difficulty undoubtedly was to bring the various owners into line, so that the whole scheme might be completed. He would go further than the Government, and was a strong believer that town planning should be compulsory. He did not suggest that they should plan the whole of England into streets, but he did feel that the onus of guarding the amenities of their districts should be thrown on every local authority throughout the United Kingdom. When that was realised local authorities would not be slow to avail themselves of the opportunities offered to them. If some fiat from the Government could go forward that the main lines of streets should be set out and districts covered by the provisions of a town-planning scheme, then they would be able to prevent a large district being spoilt owing to the owner of a few acres allowing a factory for an offensive trade to be erected.

Mr. C. J. Jenkin (Finchley) said that in connection with arterial roads Mr. H. Samuel had outlined the possibility of town planning being compulsory for the whole of England. It would not mean that the actual setting out of towns should be put down on paper, but it would mean that the development of towns on wrong lines would be stopped, and if they could stop development on wrong lines the development would probably go on on better lines. From the plan in the room he quite saw the difficulty the author had in dealing with the Fleetwood Estate unless he had town-planning powers. Whilst moral suasion was very powerful, yet without a little Parliamentary power at the back of them it did not carry them far. The first thing which struck one on coming from London, which was a well-treed city, was the absence of greenery at Blackpool.

Mr. Gregson (Southport) said one of the great difficulties of Blackpool was that they had so large a number of owners of land whom they had to try to get into line. Town planning, after all, reduced itself in the end to a question of finance, and high land values were not compatible with town planning. If they reduced the number of houses to the acre, then the value of the acre must be less, and the owner must look for his reward in securing that his land was more rapidly covered and more certainly covered, and also to the fact that he was doing his duty in attending to the well-being of the community. With regard to the laying out of roads in Blackpool, they suffered from a natural disadvantage because the coast line ran north and south. The result was that inevitably one side of the road had an inferior aspect, and the only way they could get over that disadvantage was by giving ample frontages to the houses built on the side which had an inferior outlook. They must do this to secure adequate sunlight,

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and to secure that the planning of the houses themselves—which was even more important than town planning—should be diversified in character, and that they should prevent the defects which had arisen from stereotyped planning of houses, and particularly of those used as dwellings for the working classes, who as a rule lived under inferior conditions. For years he had been associated with town planning in a neighbouring borough, and he was interested to hear what the author had said of Sir Peter Hesketh.

Mr. Munce (Belfast) thought that if those responsible for town planning tried to avoid the terrible mistakes of their predecessors they would earn the gratitude of those who came after them. For the last fifty years the roads in Belfast had been laid out with some regard to good planning, but the difficulty in all places was that the man with one field thought his was the best field in the country and wanted to lay it out to suit himself.

Mr. Lumb, in reply, said he quite agreed that to a limited extent town planning should be compulsory. From the surveyor's point of view he thought the limited extent should be that they should get the arterial roads definitely fixed in the outlying districts before the small owner began to develop in his own way. Their experience was like that of Mr. Munce—that every owner thought his field was the best. With regard to Sir Peter Hesketh, he (the speaker) had a great deal to do with the Fylde estates, and they found sea walls and so on largely intended to be the nucleus of a town. Sir Peter was before his time, and a great deal of the money of the family was wasted.

READING AND ITS ANCIENT REMAINS.*

By Frederick Weise.

Reading has a long and very interesting history, but I only propose to touch lightly on those parts that concern the buildings we have seen to-day.

That there have been settlements here in pre-historic times is evidenced by the quantity of remains of the Old and New Stone and Bronze Ages that have been found in the neighbourhood. The Atrebates (from which Silchester close by took its name of Calleva Atrebatum) were also inhabitants, yet, although many remains of Roman roads have been turned up, not one single building or dwelling of that period has been discovered. In 1890 fifty-one Romano-British skeletons were unearthed in the King's Road.

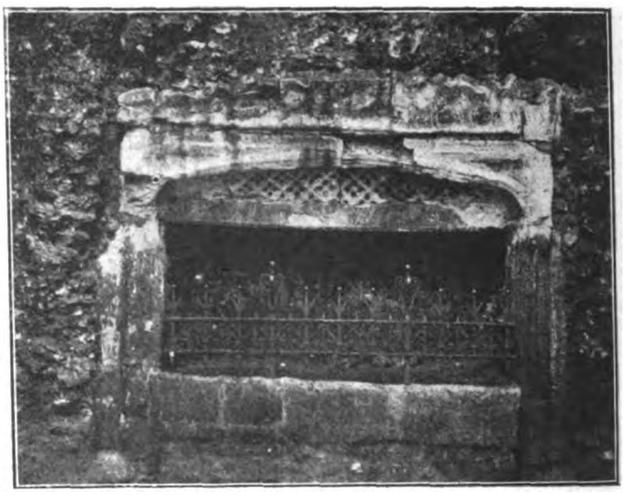
The first we hear of Reading was when the Danes seized it in 870; they held it for a year, notwithstanding the fierce assaults of Ethelred and Alfred. Alfred appears to have given up the seige in disgust, and the Danes, having finished their marauding expedition, retired to London.

In 979 Elfrida, who was the instigator of the murder of her stepson, St. Edward the King and Martyr, wishing to atone for her crime, founded a nunnery on the site of the present St. Mary's Church, and one of the Saxon doorways is incorporated in the north wall of the church. The buildings, however, were destroyed by the Danes under Sweyn in 1006.

Domesday, in its inimitable manner, says: "The King holds Redinges in demesne—King Edward held it. Then, as now, it was assessed at 43 hides. There is land for 40 ploughs—on the demesne is 1, and there are 55 villeins and 30 bordars with 55 ploughs. There are 4 mills worth 35 shillings and 3 fisheries worth 14 shillings and sixpence, and 150 acres of meadow and woodland to render 100 swine. From pasture sixteen shillings and sixpence T.R.E. and afterwards it was worth 40 pounds, now 48 pounds. The King has in the Borough of Redinges 28 closes paying 4 pounds and 3 shillings for all customary dues, yet those who hold them pay 100 shillings. Battle Abbey also owned land here."

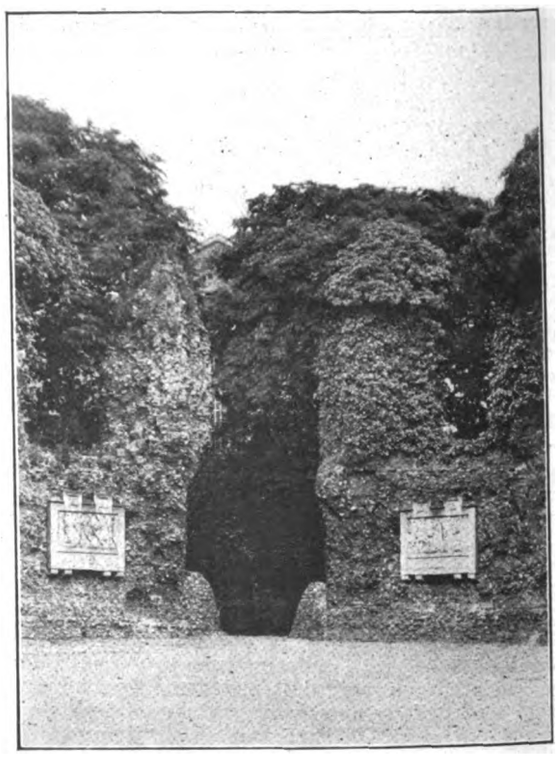
Reading has had upwards of seventy ways of spelling its name, but in the Saxon Readingas, Norman Radingia, and later Redinges it is substantially the same as at present. The name is derived from Reád, the name of a Saxon chieftain, and "ing"—i.e., the home of the descendants of Reád.

We now come to the most important event in the annals of Reading—the foundation of Reading Abbey in 1121 by Henry I., and the history of the abbey from this moment until the Dissolution is practically a "History of Reading," for by the Foundation Charter the inhabitants are turned over body, soul, and spirit to the tender mercies of the Abbot. He is given immunity from all customs, tolls, and port dues throughout the kingdom, all churches, woods, mills, fisheries, with mint and one moneyer, full privileges of the Hundred Court and all manner of places, and every kind of jurisdiction over the town of Reading and its precincts. By a second Charter, exception from all ecclesiastical charges of every kind—no royal official to interfere with monastic woods—and the Abbot had the same power and liberty as the King himself. Later he



READING ABBEY.

took chepyngavell from every burgess—a yearly fine for permission to trade. The third Charter granted a Fair, on the Festival of St. Laurence and three following days, and later Henry II. granted a second Fair on St. James' and two following days.



CHAPTER HOUSE, READING ABBEY.

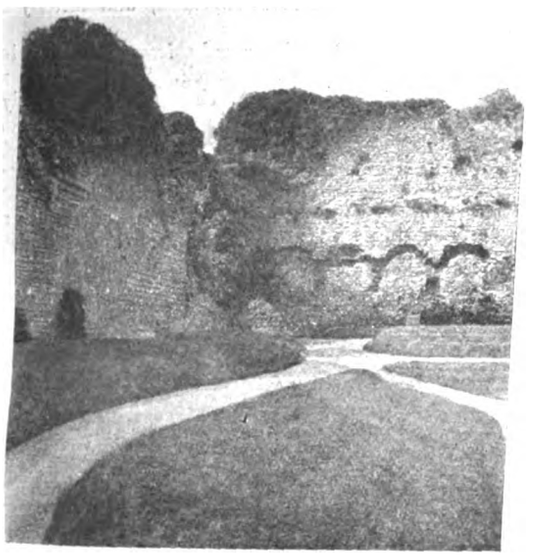
In 1254 it was ordered that the burgesses do present three persons to the Abbot in each year for him to select a master or warden, afterwards called Mayor, and this was done right up to the Dissolution.

Early in 1121 eight Cluniac monks arrived here and commenced operations for the building of what was des-

* Read at a recent meeting of the Upper Norwood Athenæum.

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tined to be a magnificent Benedictine abbey—the third largest in England—and by June 18 of that year all was ready for Henry Beauclerc to lay the first stone. After two years building was sufficiently advanced for the organisation of the Monastery, and this was entrusted to Hugh de Boves, one of the most learned theologians of the day, and previously Prior of St. Pancras at Lewes, who was appointed first Abbot April 15, 1123. The order in which the conventual buildings were erected is not known, and in all probability the chancel of the church was the earliest erection—followed by the cloisters—but it was not until 1164, after taking more than forty years to complete, that the "Hallowing" by that great Archbishop, St. Thomas of Canterbury, took place, and now we can just cast one eye over the buildings as they then stood.



DORMITORY, READING ABBEY.

The monastic enclosure had an area of about thirty acres, divided into two parts by a wall which ran east to west. In the upper portion was the Forbury (said to be a corruption of Faubourg, or Outer Court), where fairs and other extra monastic functions were held. In this enclosure you will have noticed a mound which is an artificial earthwork attributed to the Danes, and should really be classed as a castle mound, as, although there are no traces of a ditch, there are signs of outer defensive works—not sepulchral. In the southern portion, which was entered by the Inner Gateway, was the grand abbey church dedicated to the Holy Trinity, St. Mary, St. John the Evangelist, and St. James. It was a cruciform building (probably in the style of St. Bartholomew, Smithfield), consisting of choir, nave, and two aisles, with two transepts, each divided into two apsidal chapels. The Lady chapel was not added until 1314, during the Abbacy of Nicholas de Queppelade. The cloisters placed south of the nave were about 115 feet each way, next to which, southward, came the refectory, measuring 167 feet by 38 feet, and at the west end came the kitchen and buttery. To the east of the cloisters were the sacristy and treasury, the chapter-house with apsidal east end, measuring 79 feet by 42 feet by 40 feet in height—the remains of the benches may still be seen—and the dormitory running down almost to the river Kennet. Further, there were the stables, bake-house, and mill—the latter, as we have just seen, is to this day in use as a flour mill, and the original Norman arch over the Holy Brook remains; the leper house, cemetery, and infirmary—the two latter on the spot now covered by the County Prison. It seems hard to imagine that after the lapse of only three short centuries there scarcely remains a single carved stone in situ of this royal and noble institution.

The Hospitium, or Guest House of St. John, was by the West, or Compter, Gate, and on the north side of St. Laurence Church. This fine building consisted of three divisions—an almshouse, a refectory, and a dormitory. In the almshouse adjoining St. Laurence Church resided twenty-six people—thirteen of each sex. To the north was the refectory, measuring 120 feet by 30 feet, and again to the northwards was the dormitory and noble hall, 200 feet in length. The Hospitium was altered and partially rebuilt in 1445, during the Abbacy of Thomas Henley.

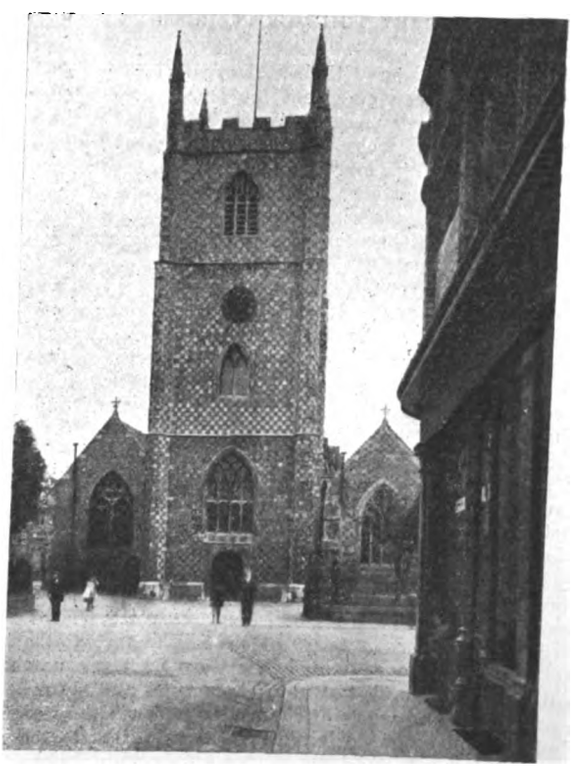
We have been considering the building of the abbey, but in the meantime Henry, who presented to the abbey the reputed hand of St. James which he had received from his daughter, the Empress Matilda, had died at Rouen. His body was embalmed, brought home, and buried before the high altar in the presence of Stephen, his successor.

Parliaments were held here in 1184, 1185, 1213, 1295, 1389, 1440, 1453, 1454, 1467, and 1468; also innumerable Councils.

In 1185 Henry II. received Heracleus, Bishop of Jerusalem, who handed the keys of Jerusalem to the King and tried to induce him to lead a Third Crusade. In 1389 Richard II. declared himself to be of age and dismissed his advisers, and in 1464 Edward IV. declared Elizabeth Woodville to be his wife. In 1539 John of Gaunt married Blanche Plantagenet.

And so we go on until we reach that momentous year for the abbey—1539. Previously the Act of Parliament of 1536 referred only to the smaller religious houses possessed of an annual income of £200 a year or less, but in 1539 a Bill was introduced covering the suppression of the greater monasteries, and as soon as the Act was passed three of the largest abbeys—Glastonbury, Colchester, and Reading—were at once attacked. Hugh Cook Faringdon, the last Abbot, who was elected in 1520, was friendly with the King, and not only joined with other spiritual lords in petitioning the Pope to grant the divorce of Henry and Catherine of Aragon, but helped in justifying the proposed divorce.

Hugh seems to have been worldly and far-seeing, and tried to make peace with his enemy in good time. He signed the Articles of Faith, acknowledging the King's supremacy of the Church of England; but probably with some mental reservation, as such a good Catholic could never have intended to flout the authority of the Church of Rome. He also appointed Thomas Cromwell as High Steward of the abbey. He supported the King, and contributed men at the time of the northern insurrection of 1536, but neither friendship nor loyalty, on the faith of



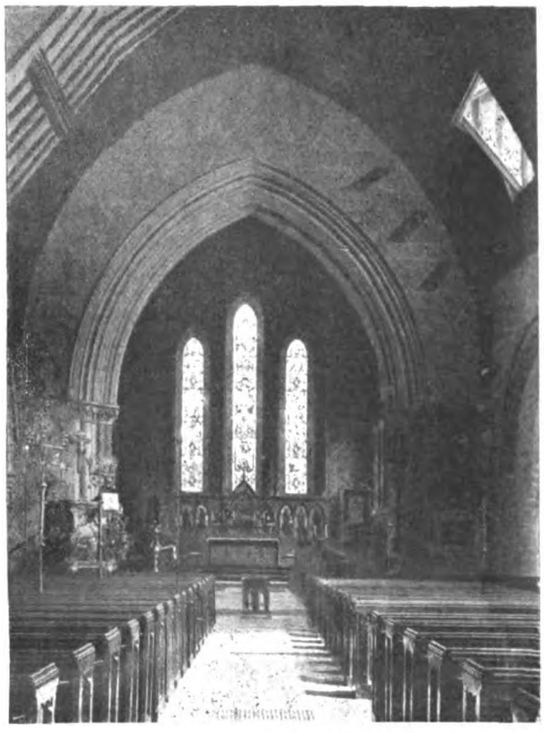
ST. MARY THE VIRGIN, READING.

which he put off the evil day of surrender, appears to have saved him.

A charge was made in 1539 of loyalty to the Holy See, thereby implying a denial of the King's supremacy, and

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he was arrested and sent to the Tower. He should, as a peer of the realm, have been arraigned before Parliament, but he was condemned as a traitor. There is evidence that the crafty Cromwell, who was all the time receiving moneys from the Abbot for his own uses, sent Faringdon to a trial of which the consequences were already determined. In the "Remembrances" Cromwell himself writes: "The Abbot Redyng to be sent down to be tried and executed at Redyng with his complices." Then followed the mock trial in his own abbey, and finally on November 15, 1539, he is hung with two fellow-monks before his own gateway. It is said that the revenue of the abbey at the time of the Dissolution amounted to upwards of £20,000 per annum (present value).



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Reading looked on with brutal exultation, which is not to be wondered at, seeing that for four centuries they had been under the heels of successive Abbots, and in the revulsion that followed mobs swarmed over the abbey, despoiling and destroying, forgetting altogether the benevolence, piety, and learning that had existed. Some of the buildings were afterwards converted into a palace by Henry VIII., and almost every succeeding sovereign entertained here until Charles I. in 1625.

The famous Rondel "Sumer is icumen in," generally accepted as the most remarkable ancient musical composition, was written down in Reading Abbey, 1225. It was supposed to have been composed by a north countryman, but Professor Wright thinks, from consideration of the words, that it is thirteenth-century Wessex, and may actually have been composed in Reading.

The mother church of St. Mary the Virgin is built on the site of Elfrida's nunnery, and is the edifice mentioned in Domesday with eight hides of land. A great part of the present building dates from 1551, which was originally called the "Minster," and was in a measure constructed from materials brought from the abbey ruins. There is a Saxon doorway, part of Domesday church, incorporated in the north wall (formerly in the nave wall).

The church has a tower of chequered flint and ashlar, and consists of nave, lighted by dormer windows, north and south aisles, chancel, two north transepts, and vestry. The north arcade and whole of chancel is modern; the Decorated Easter sepulchre is original, as also is the barrel roof, some timbers of which came from the abbey. The font dates from 1616, and there is an alms box (1627). There are a prie-dieu tomb to W. Kendrick and wife, 1635, brass plate to W. Baron, 1416, and John Boorne, 1558.

In the north aisle is an interesting picture of "Our Lord and the Syro-Phœnician Woman," attributed to Ludovico Carracci, 1555-1619, and given by Dean Milman, who was rector here from 1818 to 1838. The carved oak front of the tower gallery, 1631, and some Jacobean bench ends in the south aisle are good.

The tithes of the church lands mentioned in Domesday as being held by the Abbot of Battle, Sussex, were restored to St. Mary's after the Reformation, being purchased from the Crown with others for £1,672 odd.

The farm, "Battle Farm," in the ancient parish of St. Mary, still remains the area, though much circumscribed, owing to building operations during the last century.

Greyfriars Church.

In 1285 a grant of ground was given by the abbey to the Franciscans to build a church in place of a previous one down by the river, which was damp and falling into decay. The grant appears to have been grudgingly given and hedged round with conditions to prevent any possible rivalry with the abbey. The church was completed in 1311.

At the Dissolution the monastery was given up and the brethren dispersed. In the disturbances that followed the church was looted and ruined, and since has passed through unique experiences. In 1543 it was used as a guildhall, and subsequently as a hospital, workhouse for children and old persons, house of correction, 1613, and latterly as a church again.

The present building dates only from 1863, and incorporates fragments of the old church. There are two magnificent Decorated arcades and chancel arch, a finely restored west window with flowing tracery and beautiful mouldings.

A public house stood on the site of the south transept.

St. Laurence Church, consecrated 1121.

The present building consists of nave, north aisle, chantry chapel of St. John the Baptist, and chancel.

The fine, tall flint tower with detached tourelles and the nave arcade date from 1434. Of the original Norman



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church parts of the wall exist in the south-west corner of the nave; there are good Perpendicular windows in the chantry chapel, and in the south wall are late Transitional door and window—both round-headed. The chancel arcade is Early English.

The font, in which Archbishop Laud was baptised, dates from 1522, and there are some good Perpendicular bench ends. There is a good prie-dieu tomb to Martha Hamley, 1636, also brasses to John and Joan Kent, 1415, John Andrew, 1428, a fine palimpsest to Walter Barron, 1538, with the reverse of Sir John Popham, 1463, also E. Butler and wife, 1584. In the north aisle is a fine monument to John Blagrave in cloak and ruff. He left a legacy to maidservants and directed that dice should be thrown on Good Friday for a purse of £10.

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The west window (by Kemp) in memory of Archbishop Laud is very fine and interesting. There is a rich peal of ten bells; the great tenor, cast in the fifteenth century, weighs 24 cwt.

I have to acknowledge the assistance I have received from Dr. Hurry's scholarly "Reading Abbey," Coates' "History and Antiquities of Reading," and the Homeland Handbook.

EXAMINATIONS IN ART, 1914.

The Board of Education published last week the usual list of candidates who passed the examinations in 1914, together with the reports of the Examining Committees. From these reports we here quote extracts.

Examination in Drawing.

The members of the Art Examining Committee for the above were as follows:—Mr. S. J. Solomon, R.A. (Chairman); Mr. H. A. Bowler, H.M. Inspector of Schools; Mr. G. P. Gaskell, R.B.A., R.E., Principal of the Polytechnic Institute School of Art, St. Marylebone, London; Professor A. B. Pite, F.R.I.B.A., Professor of Architecture at the Royal College of Art; Professor E. S. Prior, M.A., A.R.A., F.R.I.B.A.; Mr. J. Byam Shaw, R.I., A.R.W.S.; Professor A. Thomson, M.A., M.B.

The Examiners note with some satisfaction that there are fewer incompetent works in this year's examination than in that of 1913, but they are of opinion that improvement in this direction is still desirable. It is considered probable that some students, contrary to the advice of their masters, enter for this examination before they are prepared for it.

The life drawings show some improvement; but faults, mainly in construction, are still too evident.

The drawings from the antique are of a higher average than those from the living model. As life drawing is of the greatest importance to the student, more attention should be paid to this branch of study.

The memory drawings from the antique are not at all good. The students would do well to be more observant of the forms and movements of animals.

Anatomy.—The exercises submitted this year are of much the same standard as those examined last year.

Too many of the candidates, without having the necessary training and practice, attempted the difficult question dealing with the anatomical analysis of a figure in action; the mere adaptation of a sort of anatomical pattern within an ill-drawn outline is hardly to be regarded as evidence of a knowledge that is likely to prove useful. It should be recognised that work of this kind should only be undertaken after the student has made some attempt to verify the anatomical facts by constant reference to the living model; by this means only will he realise how much the form is modified by the contraction of one set of muscles in contrast with the stretching and relaxation of an opposing group.

Whilst some of the exercises this year were worthy of commendation, there was no paper of outstanding merit.

Perspective.—As a whole, the worked exercises in Section A. show that a very large majority of the candidates possess a sound knowledge of Perspective so far as it is concerned with the accurate delineation of simple objects bounded by vertical, horizontal and curved lines from given conditions of plan and elevation.

The projection of shadows and reflections has also been successfully dealt with by a considerable number of the candidates.

In Section B., the exercise in sketching a view of a building from a skeleton plan and elevations, the candidates generally have not shown due adherence to the proportions given, though, in a large number of cases, good exercises have been done. The accessories were, in some cases, puerile, and in others too much elaborated.

Architectural Drawing.—The test this year has been, as last year, on the lines of draughtsmanship in pencil and in colour washes. The student is asked to show his powers in the drawing of a classical column, and secondly in the plan, section and elevation of a building or portion of a building. There is required for this purpose only the smallest knowledge of architectural archæology; but what is asked is some appreciation of architectural form such as can be shown in a sympathetic line drawing with values brought out by monochrome washes. It is to be remarked that few candidates care to express themselves in this easy and effective way. In most cases the remembrance of the Greek column and the setting out of the selected building was conveyed to the Examiner in a mechanical exercise with a dull thin line and the smallest effort at any freedom of touch in the details. Some half-dozen exercises had more assured draughtsmanship; but in a very large number, while knowledge of the details of a column was not deficient, the feeble execution left to the Examiner no ground for awarding a high mark.

Examination in Painting.

The Examiners are of opinion that, with the exception of the drawings and paintings from the nude model, there is a general improvement in the work submitted for this examination.

It is most noticeable that in the drawing from life there is a distinct falling-off, none of the works reaching the standard of the best of last year. This is regrettable, since drawing of the nude figure must be the basis of all that is good in decorative art.

From the point of view of construction and light and shade, there is little difference between the work of this year in the painting from life and that of last year. But there is a marked improvement in colour and appreciation of light.

The exercises worked in the still life painting are strikingly superior to the work done in the other tests; so much so, that the Examiners are at a loss, in some cases, to account for the marked disparity shown.

The Examiners are very pleased to note, in connection with figure composition, that the advice given last year has had such beneficial results, and that there has been marked improvement in this, the most difficult and important, test. In colour and composition, as well as in outlook, there is an improvement, and in several instances candidates have shown a true appreciation of decorative art.

Examination in Modelling.

The Examiners are pleased to find that the general standard of the work submitted at this examination is superior to that of last year.

In the test in modelling ornament, candidates were informed in the instructions on the examination paper that they were required to model a free interpretation of the example given on the paper, and that under no circumstances could a mere sketch be allowed; but the mere repetition of the example given on the examination paper, without any display of freedom or invention on the part of the candidates, would seem to prove the uselessness of this particular test, which, the Examiners understand, the Board have already decided to omit from this examination in future.

Examination in Pictorial Design.

Figure Composition.—The designs for the lunette were disappointing, showing little sense of how to arrange figures satisfactorily in this shape, and the execution of the figures was for the most part careless and coarse.

The designs for the composition in which one figure was to be holding a bow, were, with a single exception, poor.

Original Design.—Here a very marked advance was shown over the work of last year, both in the number of drawings submitted and in their quality. At least four of the drawings had great merit alike in design and execution.

Examination in Industrial Design.

Both in the drawing and in the modelling from historic ornament there was distinct advance shown here over last year's work. One or two, indeed, of the modellers showed a good deal of natural capacity, which would, however, of course, require much careful training to do itself justice.

Elementary Design.—The drawings sent in were, on the whole, a very unsatisfactory lot, both in design and execution.

The answers to the question dealing with the enlargement or reduction of an object were frequently over-complicated and elaborate; and, on the other hand, sometimes, apparently, they were merely freehand enlargements or reductions. The simplest methods should always be employed for this purpose.

The types of lettering chosen were for the most part good, but the execution and distribution of the letters were poor.

The heraldic animals were extremely poor.

History and Styles of Ornament.—Whilst there were several good examination papers in this class, the answers as a whole cannot be considered as above fair. It is too often the case that candidates do not first make sure of

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CAFE SUISSE, TORQUAY.

thoroughly understanding the question asked them before attempting to answer it, with the result that frequently much in their answer is irrelevant. Sometimes, also, candidates, while showing knowledge in their sketches, in their written explanations get themselves into great confusion, or even contradict the knowledge evidenced in their drawings. Other candidates again write long answers on history, &c., which they have clearly got up beforehand, but which, however good in themselves, have nothing whatever to do with the matter in hand; any treatment of this is entirely avoided.

Testimonies of Study.—These, on the whole, were very satisfactory. Many of them showed a commendable amount of diligent and intelligent study of nature, and of fine examples of old work. It is to be expected, of course, that under the stress of examination students should often fail to do themselves justice, but occasionally this failure is so great as to be almost inexplicable. For example, in the testimonies of study the Examiners were greatly impressed by the singular beauty of design and execution of certain ornamental tiles; whilst, on the other hand, the tile painting executed in the examination was indifferent and commonplace. Against this, it is only fair to say that the designs for enamelling and jewellery executed during the examination were a great deal better than the enamelling and jewellery shown in the testimonies of study.

General Observations.

If in the above report the Examiners have been compelled to speak of a great deal of the work submitted to them as unsatisfactory, yet, as a whole, they think it shows an advance upon that submitted last year, and in one or two cases a notable advance. They have, however, again to regret that, generally speaking, the written answers to their questions have been better than the executed work. Knowing how much excellent teaching is given in the schools, and how much excellent work is produced there while the students are in immediate touch with their teachers, the Examiners, when they see how inferior to this work is much of that done in the examination, cannot help feeling that in the schools hardly enough attention is paid to the confessedly difficult task of teaching students to stand on their own feet and run alone.

CAFE SUISSE, TORQUAY.

This job has recently been carried out at Torquay by Mr. F. G. Moore, M.A., B.Sc., architect. The general contractors were Messrs. Samuel Blatchford & Sons, Torquay; electrical installation by Messrs. Bessemer & Redman, Torquay; cooking appliances, Messrs. Revy, Phillips & Co., Ltd., 181 Queen Victoria Street, E.C. The furniture was designed by the architect, and made by Messrs. Williams & Cox, Torquay.

THE ORIGIN OF THE MOSLEM ARCHITECTURE.

By Philip J. Dear, M.A.Oxon., &c.

Freeman writes in the *History of the Saracens*: "Whence did the Saracens obtain their knowledge? They confessedly did not bring it from Mecca and Medina, and it hardly sprang spontaneously from the ground either at Cordova or at Bagdad. We must again look to our poor friend the 'Greek of the Lower Empire.' The Arabs studied Aristotle and taught him to the men of Western Europe; but it was purely from the men of Eastern Europe that they obtained him in the first instance. He was read in translations at Samarcand and at Lisbon when no one knew his name at Oxford or Edinburgh; but all the while he continued to be read in his own tongue at Constantinople and Thessalonica. I think I can perceive that nearly all Saracenic knowledge came from what was to them the West, except what came from the remoter East—namely, the Arabic numerals, which I believe competent judges consider to be of Indian origin. The Arabs seem to have positively invented nothing, though what they learnt from their Byzantine masters they often, with the zeal of new scholars, developed and improved. And I can also perceive that they only acquired a very little of what those Byzantine masters could have taught them; that whatever the Arabs learnt they learnt from translations of Greek books, and that many of the most famous literary men at the Court of the Caliphs were not Mahometans at all, but Jews or Christians" (pp. 191 and 192).

Mr. Havell asks us to believe that architecture was an exception to this apparently. The Moslem style extends from Spain to the furthest borders of India, and even beyond; throughout the whole of that area it has fairly uniform and easily recognised characters; its earliest buildings are to be found, as one would expect, in Jerusalem and the districts round: thence it spread to Egypt, Persia, Samarcand, Mesopotamia, Afghanistan, Africa, and Spain. In every region, as Moslem conquest advanced, this peculiar style of building was carried with it, like flotsam on the tide, gathering new ideas as it went, and adopting fresh methods of decoration and systems of construction; yet from Spain to India it is essentially one style. Nay, more; without any exaggeration one may say that Gothic was the Western branch of this manner;

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Saracenic, that of the East; that one great style, which may be aptly called Indo-Germanic, extended from Scotland to Siam. If you draw a line from Gibraltar to the south point of Ceylon, and another through Inverness or Elgin parallel to it, the whole architecture of the world lies practically in this narrow space, which represents the spread of the Aryan race. And this manner of building might well be called Aryan, in its original sense of "noble": for whether you see it in the Parthenon or the Pantheon, in Roman castles and palaces, or in the churches of Byzantium, or in those of Europe, in the mosques and tombs of Egypt, of Persia, and of India, its supreme characteristic is simple grandeur, and more than mathematical fitness for the purposes it fulfils. In a word, it is intellectual supremacy which marks all its efforts and crowns all its triumphs. Are we to think that this sprang from India? Do Hindu buildings present this in any marked degree? Is it not true rather that in the Far East you will find uniformity and grandeur of conception, which are markedly wanting in Brahman buildings?

Now it is in this very direction that Freeman speaks of the Arabs as having advanced beyond their masters. "It is no less clear that for several ages the Saracens, above all the Spanish Saracens, were considerably in advance of the Western nations of Christendom in astronomy, medicine, logic, and most of the useful and ornamental arts. Their science was of course child's play compared with what we should now call by that name, but it was far superior to anything in contemporary England, France, or Germany. But when I am told, as we sometimes are, not only that they made great comparative advances in learning and science, but that they had all the learning and science then in the world to themselves, I simply attribute it to our strange habit of entirely forgetting the existence of an Eastern as well as a Western Christianity" (p. 191). Compare the temples at Pagaw, the Angkor Vât, the Boro Budur, with the unintelligible jumble of Hindu erections even of the first order, like that at Ranpûr, Bhuvaneswar, Sinnar, and elsewhere, which look like a collection of domestic utensils, piled up and crowded one on the other without rhyme or reason. No doubt there were, as Mr. Havell says, ritual reasons for all, but ritual reasons are the very opposite to real reason in most cases. This considers how a structure can be best contrived to fulfil the purposes for which it is needed; the other is always thinking of making it resemble something else, intended for wholly different ends, and the effect is, generally, hardly reasonable. But it is on the "sweet reasonableness" of our great buildings that we pride ourselves, surely; and when Mr. Havell writes that the Moslem erections of India are "body and soul" Hindu in their origin I should assent, but add in their spirit they are European. When he protests that they are no more foreign than St. Paul's or Westminster Abbey, he, as a fact, gives up the question; no one supposes that these buildings were the work of any but English workmen, except, perhaps, to a small extent, yet no one would think of calling St. Paul's anything but an Italian design, and few would question that the Abbey is essentially French. It does not matter that its details are all Early English, as we absurdly call it; "Early English" is a poor copy of Early French, which again is a bad reproduction of ideas coming from Italy. When you get to Flamboyant and Perpendicular, you have true national systems; but I doubt if anyone would brag of them. So the overcrowded, unintellectual jumble of Hindu sculpture, though no doubt very interesting to the expert, who traces in it the development of ideas and manners, is not of a high artistic character; the reserve of Greek and early Pointed, and of the best types of Moslem work, compares very favourably with this fussy writhing of wormlike forms all over a surface. It is this simple grandeur, which the Mahometan invasion brought into India, and by means of the patient labour there, and the skilful builders, it brought its own style to the acme of perfection. And we might do the same if there were men of genius amongst us who could see how to put together Eastern and Western art. I have discovered that in Spain what I have so often urged was done; the spandrels of Gothic work were filled up with Eastern mosaic, with splendid effect. Lord Curzon, whose influence in this matter appears to have been on the wrong side, was led by his instinct to the country, where a synthesis had been made of Arabic and Gothic art, and produced there the sumptuous ornament of the plateresque, and in going to seed the Rococo and Baroque.

It is just this "going-to-seed" effect which seems to me so patent in all Hindu work: all workers in the human figure, or, as Mr. Havell calls it, anthropomorphic symbolism, tend this way, as we can see in France to-day, unless they are restrained by the special grace of God. The spirit always striveth against the flesh, and the spiritual shows itself in a quiet self-restraint, which avoids excess of every kind, especially spiritual: it is the mark of the beast to flow over into excessive ornament, as the Romans did in their adaptation of the Greek. The Normans, again, overlaid the Lombardic; the Decorated and Flamboyant were "going-to-seed" forms of Gothic, from which the Jacobean and the style of St. Eustache originated naturally.

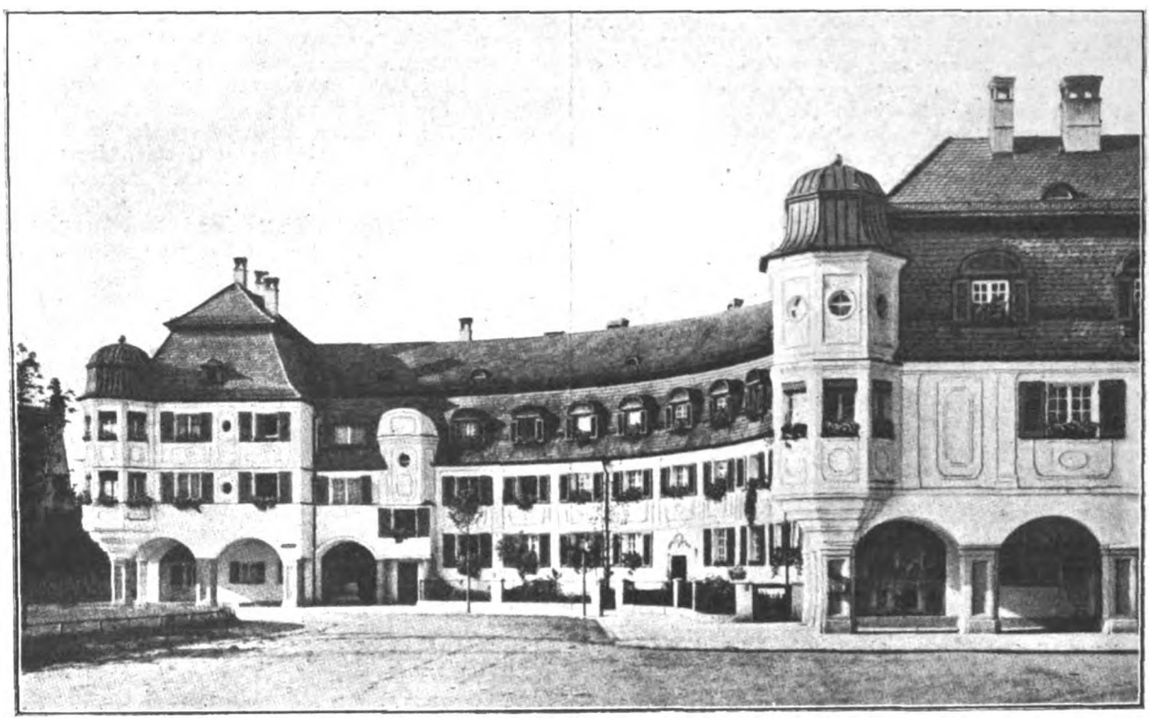
It was just from this "going-to-seed" exuberance that the Moslems rescued India; their use of simple, pointed arches, and their prohibition of figure sculpture, and their manner of adorning buildings by calligraphy, produced a spiritual effect, which had been absent to a great extent. The drawings of mosques from the West, which were shown to the Indian craftsmen, were sufficient to introduce this element. A spermatozoon is a minute and almost invisible organism, yet it carries the characters of a father to his offspring—the colour of his eyes, the curl of his hair, the tone of his mind; he may never see his children, who may be trained by strangers for years, and have ideas quite contrary to his constantly forced on them, yet in spite of all his mental character will affect them and mould their lives. So the Mahometan style, deriving from Byzantium its most vital features, was the father, the most potent parent of the Moslem work in India; the mother, indeed, was Hindu, but had the receptive passive character of the "female" Eastern races. The active, the male, the spiritual element was Western, and came in the end from Greece. It was a combination of the Byzantine with the Persian, which obviously would meet the Arabs directly they came from their original home; it is useless to say that through Persia this already had an Indian element in it. The Gothic, through Italy, had in it a marked Roman descent, but no one would say that it was Roman, or still less Greek, art: the position is precisely like that which Freeman describes; the numerals may have come from India, but the mathematics came from the West.

If St. Paul's, in spite of its English architect and British workmen, is Italian, if the Tomb of Humayun and the great gate of the mosque at Fettehpur Sikri, which are surely the immediate progenitors of the Taj Mahal, are Persian, though their builders were actually Indian, no presumption of occasional Hindu artificers at Ispahan, Bagdad, or Cairo will make structures there anything but native, though the waterpot and wheel finial of Brahmanism appears on their domes. The supposed origin of trefoil arches from the halo round the head of Buddha recalls the fiction that tradition of floods all over the world proves a universal deluge, or that ideas of God everywhere are evidence of a single deity. These things were, without doubt, invented or handed down in many different ways; but all this does not in any way affect the truth, as shown by the recent report of Government officials, that the master builders of India were, and still are, capable of superb work, and that the denial of their existence is directly contrary to the experience of architects and experts in the question. For instance, Mr. J. Begg, consulting architect to the Indian Works Department, says: "Classical and Renaissance architecture is the costliest style in India, and that the mistrí or master builders are quite common, and still capable of really good work." Dr. Marshall, the official expert on Archæology, speaks in a similar strain of modern Indian architecture; Mr. Gordon Sanderson reports that suitable men can be found easily; while Mr. F. S. Growse writes of a temple built by the Maharajah of Gwalior that it is an exact counterpart of an Italian church, and would be "an excellent model for us to follow, as it secures to perfection free ventilation and softened light. When he was in charge of a district in the Punjab he arranged that all official buildings were done by Indian master builders, but the "Department" would not tolerate this attempt to raise the status of the native artisans, though their fitness and cheapness was clearly shown. He was suddenly removed from his position, and those whom he had so successfully employed had great difficulty in getting paid for the work they had done. They will not copy the sham Classic, in which the official mind delights, and they are, for this, debarred even from the smallest work in the most petty village, though their artistic skill is such that their handicraft is brought to the museums of Europe as a copy and incentive to

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MODERN EUROPEAN ARCHITECTURE.

GERMANY.



[From *Moderne Bauformen.*

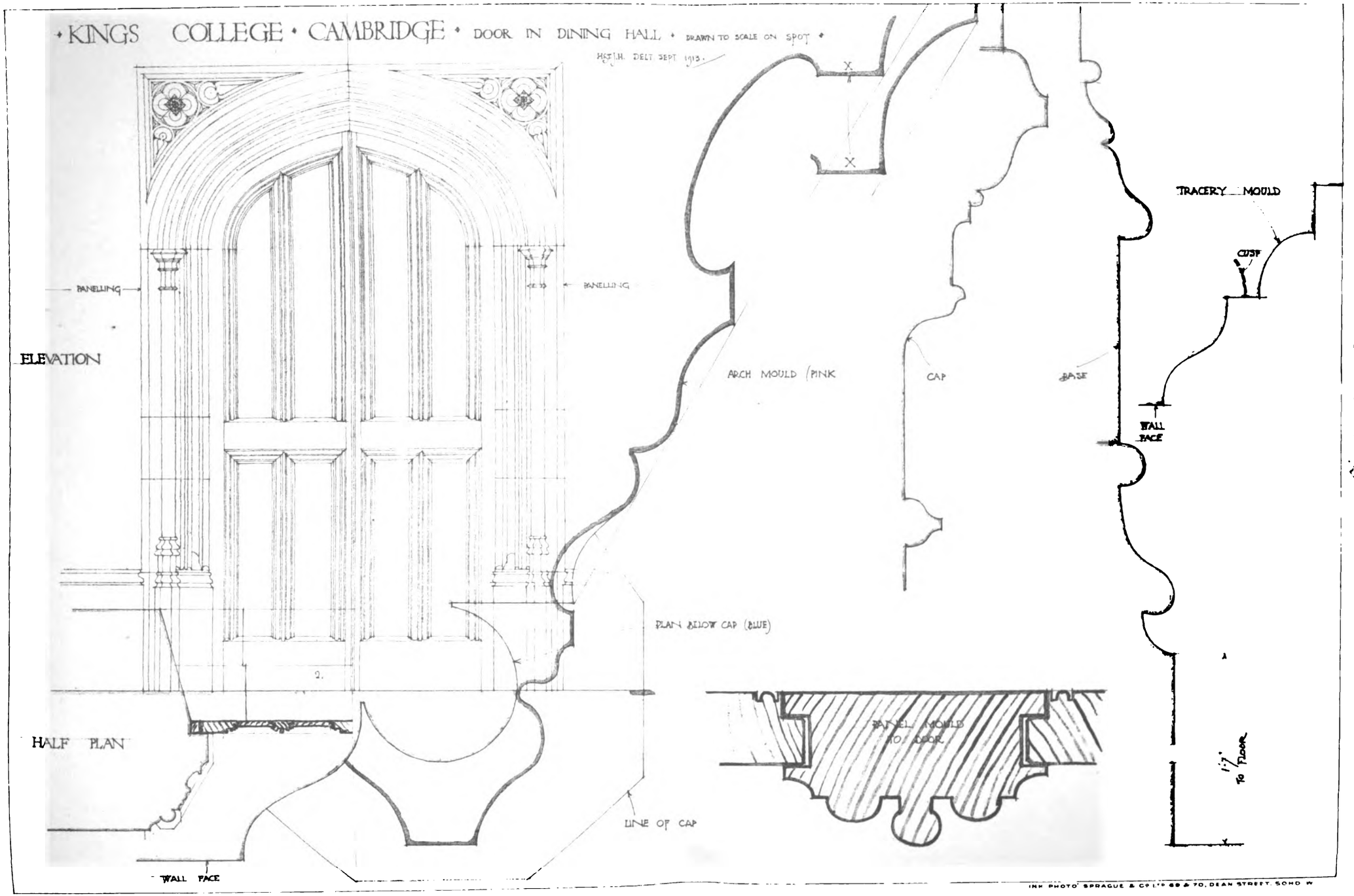
IN THE GARDEN SUBURB OF WERDERAU, NEAR NUREMBERG.—Professor Ludwig Ruff, Architect.

designers there. Mr. Havell says this incident will throw light upon the astonishing ignorance regarding the Indian master builder and his work which is shown by many Anglo-Indian district officers of long experience. To obtain an insight into the actual condition of the Indian building craft of to-day outside the departmental enclave—one could not do better than wander through the streets of a modern Indian town in Rajputana or Central India and realise at once its vitality and gradual decadence. Lashkar, the present capital of the Gwalior State, is a typical one, in which until quite recently the Indian master craftsmen have worked without supervision or the teaching of European architect engineers. They have built fine bridges, houses for rich and poor, temples, and secular public buildings, and chhatries, for, though a "progressive" Indian ruler may employ an architect to design the latest buildings in European fashion for ceremonial purposes, in matters which concern his religious and private life he will call in the Indian master craftsman. Mr. J. L. Kipling throws some interesting light on this subject in his report on the Punjab Exhibition of 1881-2. He writes: "In building a house, when a carpenter has made a carven chaukut for door or window, he takes a holiday to exhibit it, and, spreading a sheet on the ground, lies in front of it to receive the congratulations and gifts of his townsmen. As much as Rs. 100 have in one day been thrown to the carver of a particularly good piece of work."

Though compared with former times, the native master builder in the present day works everywhere under depressing conditions; his circumstances in a town like Lashkar are infinitely better than they are elsewhere. Here he is an artist who even in his poverty can take pride and pleasure in his work: his employer will testify a personal interest in his work in many ways. A progressive Prince will not now retain master builders in his service as Court architects, but the "uneducated" public of Rajputana will find pleasure in the skill of the local craftsmen and reward them according to its means; they are often liberally treated with sweetmeats, tobacco, sherbet, &c. Mr. Havell is in many ways antagonistic to Fergusson, but in Dr. Burgess's edition of his *Indian Architecture* of 1910 we find: "Fortunately, too, these modern examples by no means disgrace the age in which they are built. Their sculptures are inferior, and some of their details are deficient in meaning and expression; but on the whole they are equal, or nearly so, to the average examples of earlier ages. It is this that makes Satrunjaya one of the most interesting places that can be named for the philosophical student of architectural art, inasmuch as he can there see the various processes by which cathedrals were produced in the Middle Ages carried on on a larger scale than almost anywhere else, and in a more natural manner. It is by watching the methods still followed in designing buildings in that remote locality that we become aware how the uncultivated Hindu can rise in architecture to a degree of originality and perfection which has not been attained in Europe since the Middle Ages, but which might easily be recovered by following the same processes (p. 27, vol. ii.); and again, like all peoples untrammelled with rules derived from incongruous objects and gifted with a feeling of the beautiful, they adorn whatever they require and convert every object, however utilitarian its purposes, into an object of beauty. They long ago found out that it is not only temples and palaces that are capable of such display, but that everything which man makes may become beautiful, provided the hand of taste be guided by sound judgment, and the architect never forgets what that object is, and never conceals the constructive exigencies of the building itself. Even sluices were made artistic. It is simply this inherent taste and love of beauty, which the Hindus always seem to have possessed, directed by unaffected honesty of purpose, which enables them to erect, even at the present day, buildings that will bear comparison with the best of those erected during the Middle Ages in Europe. No one who has visited the objects of interest with which India abounds can fail to be struck with the extraordinary elegance of detail and propriety of design which pervades all the architectural achievements of the Hindus; and this not only in buildings erected in former days, but in those now in course of construction in those parts of the country to which the bad taste of their European rulers has not yet penetrated (p. 185). This issue of Fergusson may be compared with Dr. Smith's edition of Gibbon with Dean Milman's notes. In it the enthusiasm of a great amateur is blended with, and endorsed by, the learning and sober judgment of a lifelong expert in the service of the Government. Mr. Havell can hardly ask, or fairly expect, a more whole-hearted praise of Hindu perfection in building; in fact, if anything, it goes too far. But however this may be, the testimony of these two rivals may be accepted without hesitation. As I pointed out in a recent paper, the

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The Architect, Aug. 7th 1914.

"THE ARCHITECT" TRAVELLING STUDENTSHIP, 1913.

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CATHEDRAL OF ALTAMURA.

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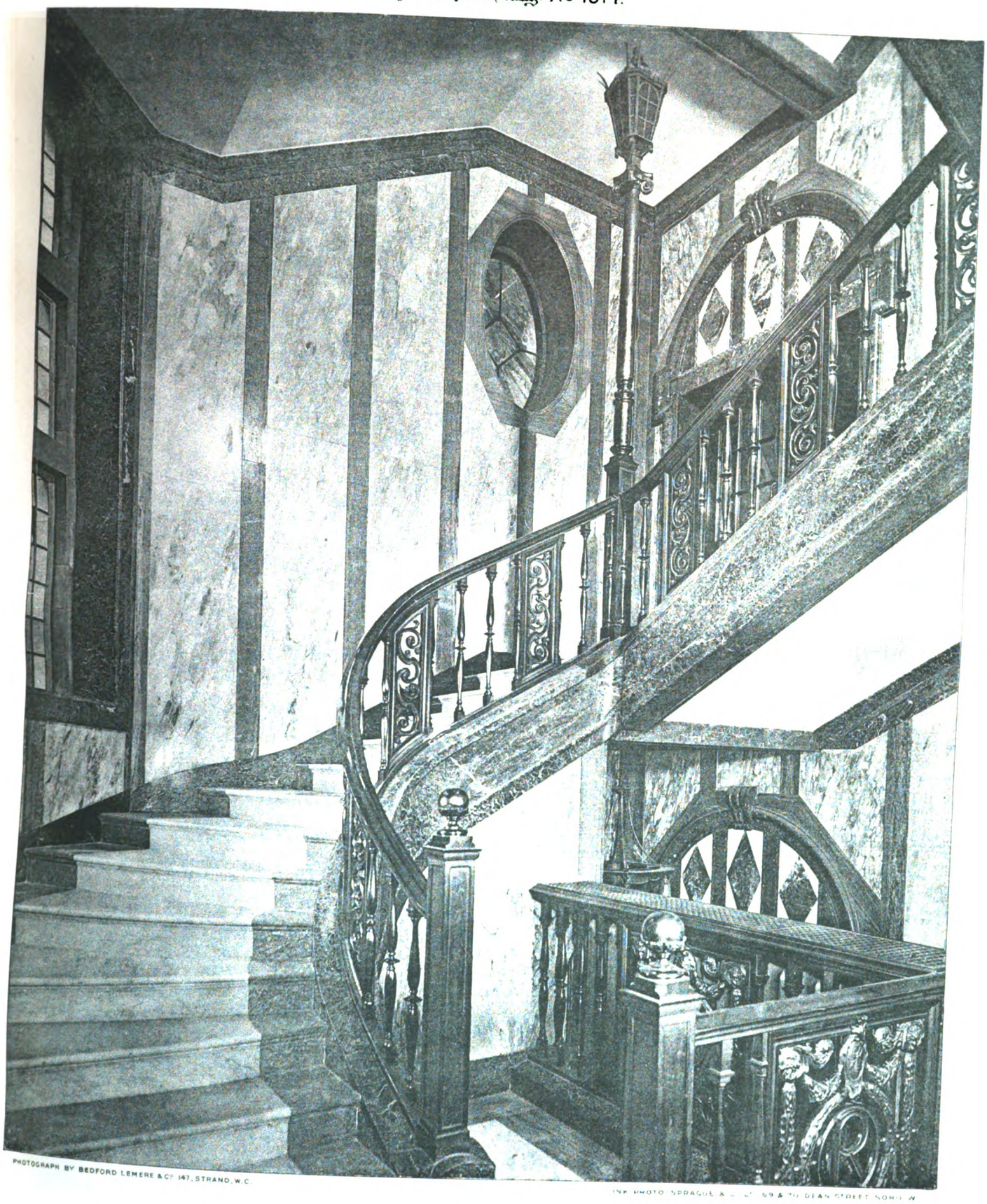
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INTERIOR. EXTENSION OF REFUGE ASSURANCE COMPANY'S OFFICES, MANCHESTER.

Mr. PAUL WATERHOUSE, M.A., F.R.I.B.A., Architect.

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STAIRCASE. EXTENSION OF REFUGE ASSURANCE COMPANY'S OFFICES, MANCHESTER

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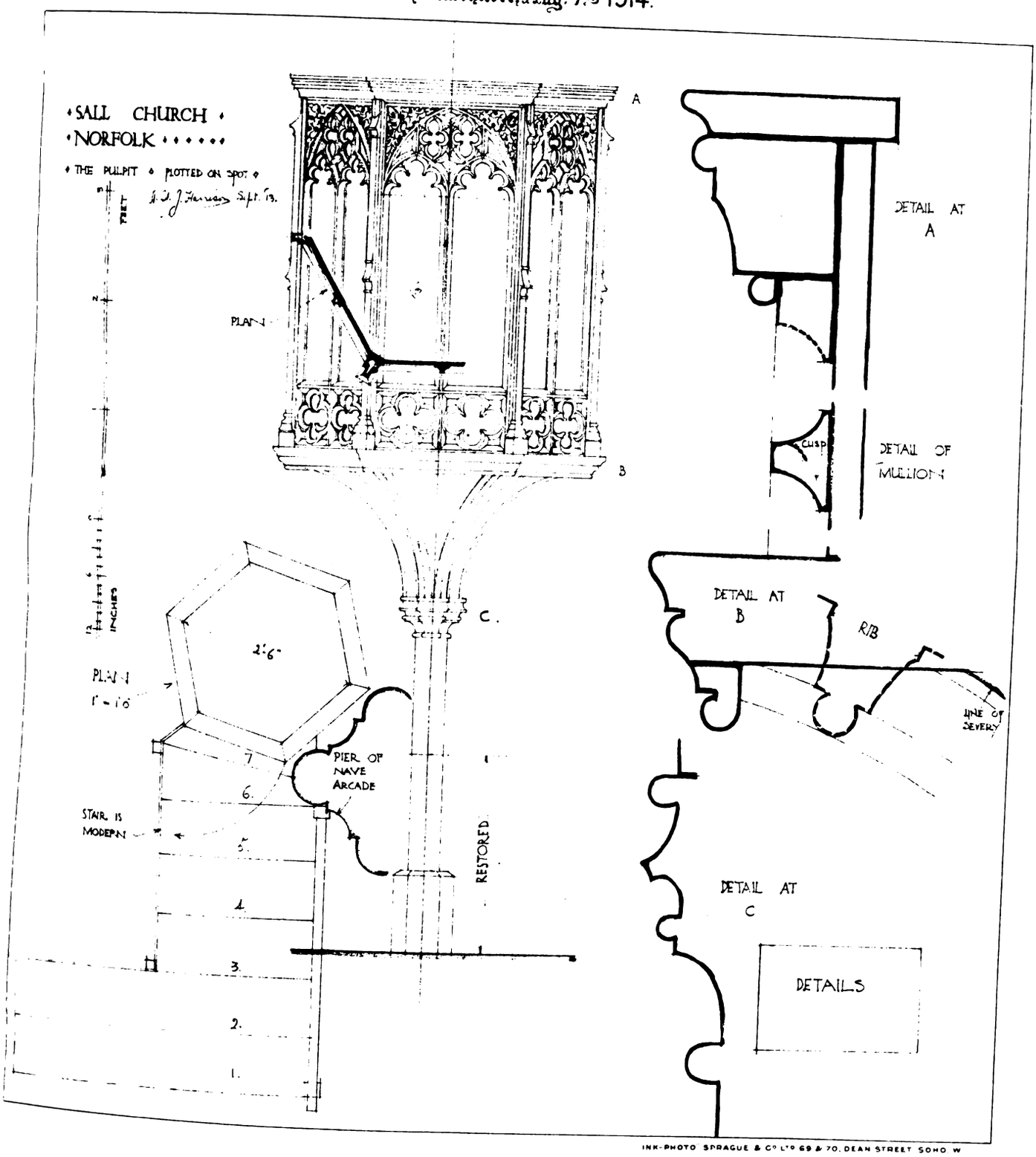
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WINDOW FROM CATHEDRAL, ALTAMURA.

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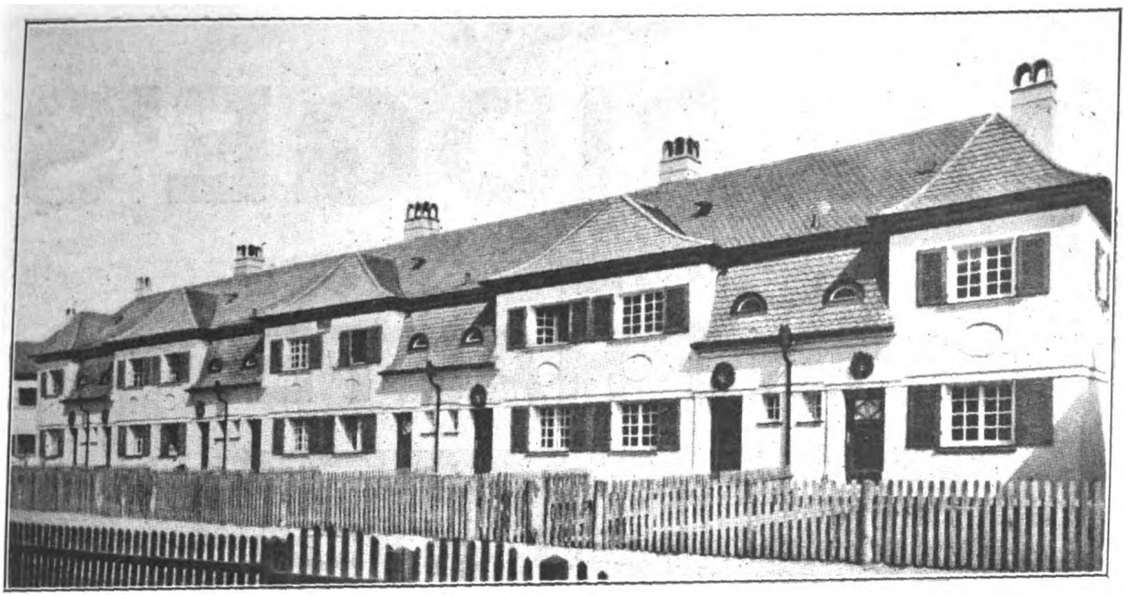
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MODERN EUROPEAN ARCHITECTURE.
GERMANY.



[From *Moderne Bauformen.*

IN THE GARDEN SUBURB OF WERDERAU, NEAR NUREMBERG.—Professor Ludwig Ruff, Architect.

weakness of our modern work is that the detail is scamped and poverty-stricken, because the architects fancy themselves able to supply all ornament without ever having studied even the elements of their detail. No first-rate style was ever worked on such a method; in all great periods of building the adornment has been the care of special artists. In India to-day these are to be found, excelling perhaps those of any nation in conventional patterns; they are willing and happy to work at a few pence a day. They ask only to be left alone to perfect their own system, which we cannot rival, and which we therefore seem likely to reject in the pride of our ignorance.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.
Wash Common.—Church (£2,000).

BUCKINGHAMSHIRE.
Wycombe.—Chair Factory, Jubilee Road: additions, for Messrs. G. A. Large & Son.
Chair Factory, St. Mary Street: addition, for Messrs. Nicholls & Janes.
Eight houses, Abercrombie Avenue, for Messrs. B. & G. White.
House, Kingsley Avenue, for Mr. P. J. Holland.
House, Hampden Road, for Mrs. T. Rolls.
Four houses, Hampden Road, for Mr. A. Stacey.
Stabling, Paul's Road, for the Co-operative Society.

CORNWALL.
Camborne.—Proposed thirty houses, near Wheal Gerry, for Mr. S. J. Pengilly.

CUMBERLAND.
Cockermouth.—Theatre. Mr. P. M. Hope (of Keswick), architect.
Silloth.—Police Station.

DERBYSHIRE.
Buxton.—Natural Baths: improvement (£6,000).
Chapel-en-le-Frith.—Fifteen Council houses.
Gresley.—Holy Trinity Sunday Schools. Messrs. Naylor & Sale, FF.R.I.B.A., architects, Smiths Bank Chambers, Market Place, Derby.

DEVON.
Barnstaple.—Premises, High Street, for the London City and Midland Bank. Mr. T. B. Whinney, F.R.I.B.A., architect, 8 Old Jewry, London, E.C.

DURHAM.
Bishop Auckland.—Council School (£1,100).
Blackhall Mill.—Council School (£8,000).

ESSEX.
Chelmsford.—County High School: enlargement (£3,500).
Earls Colne.—Council School for 370 places (£5,200).
Eastwood.—Council School: enlargement.
Harwich.—Cottage Hospital.
Leyton.—Proposed Boys' Secondary School.
Romford.—Council School, Salisbury Road: enlargement.

HAMPSHIRE.
Andover.—Grammar School.

HERTFORDSHIRE.
Hoddesdon.—Baptist Church (£1,000).

KENT.
Edenbridge.—Special Subjects Building. Mr. H. Dixon, contractor, Smarden, Ashford (£753).
Sevenoaks.—Weald Council School: teacher's house. Mr. W. P. Banks, contractor, Dunton Green (£529).
Shorncliffe.—Church (£10,000).
Walmer.—Baptist Sunday Schools (£1,650).

LANCASHIRE.
Blackrod.—St. Katherine's Church: additions.
Knott End.—Hydro, St. Bernard's Road.
Oldham.—St. Andrew's Church Room.
Preston.—Public Baths, Saul Street (£20,000).
Shawforth.—Church School.
Southport.—Picture Theatre. Messrs. Tonge & Swaine, architects, 40 Lord Street.

LEICESTERSHIRE.
Leicester.—Tuberculosis Sanatorium (£10,000).

MIDDLESEX.
Hayes.—The "Anchor" beerhouse: rebuilding, for the Isleworth Brewery Company.
Six houses, Tudor Road, for Mr. H. J. Russell.

MONMOUTHSHIRE.
Abertillery.—Brynteg Congregational Church.

NORTHAMPTONSHIRE.
Wellingborough.—Factory and offices, Victoria Road, for Ideal Clothiers, Ltd. Messrs. Sharman & Archer, architects, Sheep Street.

NOTTINGHAMSHIRE.
Nottingham.—Presbyterian Church, Noel Street.
St. Jude's Church: extension for additional 350 sittings (£3,000 to £4,000).

SHROPSHIRE.
Wem.—Council School, Barnard Street.

SOMERSET.
Bason Bridge.—Four cottages, Factory Lane, for Bridgwater R.D.C.

STAFFORDSHIRE.
Chase Town.—R.C. Schools (£1,700). Messrs. Harrison (F.R.I.B.A.) & Cox, architects, 109 Colmore Row, Birmingham.

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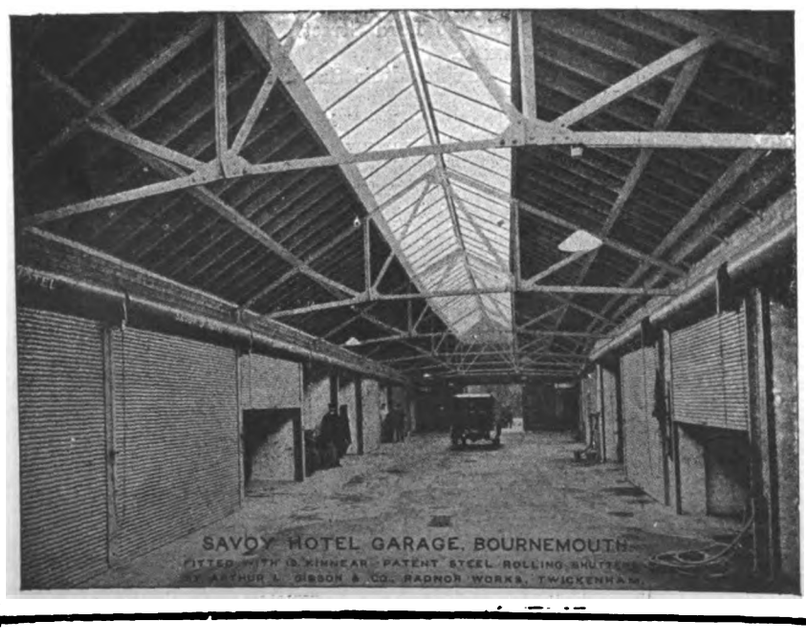
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ENGLAND—*continued.*

SUFFOLK.

Kedington.—Parish Church: restoration (£1,250). Mr. Detmar Blow, F.R.I.B.A., architect, King's Bench Walk, London.

Leiston.—Fifty workmen's dwellings.

SURREY.

Guildford.—Stoke Hill Council School: proposed enlargement.

Haslemere.—Proposed parsonage.

Walton-on-Thames.—Proposed Picture Palace, for Mr. W. Clark.

SUSSEX.

Chichester.—West Sussex County Council offices.

Horsham.—Cottage Hospital: proposed enlargement.

Westhampnett.—Six Council cottages, Bersted.

WARWICKSHIRE.

Astwood Bank.—Ten working-class dwellings. Messrs. Dicks & Waldron, architects, 1 Market Place, Evesham.

Atherstone.—Workhouse Infirmary: additions and alterations (£5,000). Mr. Simpson, architect.

Bedworth.—Two houses, Saunders Road, for Mr. W. Gard.

House, Saunders Road, for Mrs. Gregory.

Birmingham.—Public Baths, Northwood Street: alterations (£1,150).

Brinklow.—Congregational Church. Mr. W. H. Hattrell, architect, 23 Hertford Street, Coventry.

Foleshill.—Four houses, King George's Avenue, for Mr. E. K. Purnell.

Two houses, Holbrooks Lane, for Mr. Payne.

Two houses, Bell Green Road, for Messrs. North & Gazey.

Keresley.—House, Hall Hill Lane, for Mr. A. Browett.

Nuneaton.—Fifty Council houses.

Sutton Coldfield.—Proposed Girls' Secondary School for 200 places (£10,000).

Walsgrave-on-Sowe.—The "Mount Pleasant" Inn: additions and alterations, for Messrs. Marston, Thompson & Evershead.

WORCESTERSHIRE.

Kidderminster.—Cottage homes for children, Adam and Claughton Streets.

YORKSHIRE.

Askern.—Picture Theatre. Mr. T. H. Johnson, architect, 6 Priory Place, Doncaster.

Burton Agnes.—House for police constable. County surveyor, Beverley.

Castleford.—Twelve houses, Rock Hill, Glass Houghton, for Mr. J. W. Smith.

House, Westfield Lane, Glass Houghton. Messrs. Powell Bros., builders, Bradley Street.

Dewsbury.—Motor Works, Adams Road. Messrs. W. Thornton & Son, A.R.I.B.A., architects, Bond Street, Dewsbury.

Driffield.—Two houses for constables. County surveyor, Beverley.

Holmfirth.—Washpit Mill: extensions, for Messrs. Watkinson & Sons.

Sowerby Bridge.—Church and Parish Hall, Wakefield Road. Messrs. Empsall & Clarkson, architects, 7 Exchange, Bradford.

Strensall.—Infantry Barracks, Lowthorpe Lane.

WALES.

Abercynon.—Infants' Council School, Ynysboeth, for the Mountain Ash Education Committee.

Llandudno.—Territorial Drill Hall, Argyle Road.

Llanwrtyd Wells.—Baptist Chapel.

Margam.—Six houses, Groeswen, for Mr. D. L. Evans.

SCOTLAND.

Edinburgh.—The "Castle" Brewery, Grassmarket: alterations, for George Heriot's Trustees.

Wash-houses, McLeod Street (£3,000).

Glasgow.—S.A. Hall, Parker Street, Whiteinch.

Irvine.—Twenty-four garden-city cottages, Meadow Park.

Port Glasgow.—Stables, Falconer Street, for the Co-operative Society.

IRELAND.

Cashel.—Labourers' cottages.

Cork.—House, Wellington Bridge. Messrs. Chillingworth & Levie, architects, 11 South Mall.

Kilkeel.—Parochial House: extension.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Special Fire Service and Fire Patrol Work.—An Emergency Force.

SIR,—Fire-brigade and fire-patrol work will shortly be required on a more extensive scale than heretofore for our fortified and defended places, for our arsenals and national stores, and for certain Government establishments requiring special protection. We are thus preparing a roll of retired fire-brigade officers and firemen—both professional, volunteer, and private—who are ready to join an emergency fire service force or forces to be placed at the disposal of the Government. To a limited extent we are also prepared to put on this roll fire-brigade officers and firemen of inland (country) brigades—both volunteer and private—not exceeding three from any one brigade.

We also desire to form a supplementary roll of young engineers (used to steam-engines or motor-cars) and young surveyors or architects (used to building, survey, or dangerous structure work) who, although not having actual fire experience, would be valuable in an emergency fire service force.

Applications to be entered on the roll should be addressed to the undersigned at the offices of the British Fire Prevention Committee, 8 Waterloo Place, London, S.W., the organisation and staff of which will be at our disposal.

Applications should be made in writing only, with the following particulars: (1) Full name; (2) address; (3) age; (4) vocation; (5) fire-brigade experience, with dates; (6) special qualifications, if any; (7) reference; and further (8) whether the applicant is prepared to serve (*a*) gratuitously; (*b*) under the same conditions of pay as the Territorials; or (*c*) if the ordinary professional rate of fire-brigade pay is required.

(Signed) LONDESBOROUGH.
EDWIN O. SACHS.

British Fire Prevention Committee,
8 Waterloo Place, S.W.: August 6, 1914.

Flatstones for Walls.

SIR,—A friend of mine in Holland has written asking me if I can give him the names and addresses of any English firms making artificial tiles for garden footpaths. This is his description. I do not know if he wants tiles for the path itself, or for edging to beds. He asks also about what he calls "flatstones for building walls in gardens."

Can you give me any assistance in getting the information he wants? If so, I should be much obliged.

A SUBSCRIBER.

Birmingham: July 31, 1914.

Ireland.

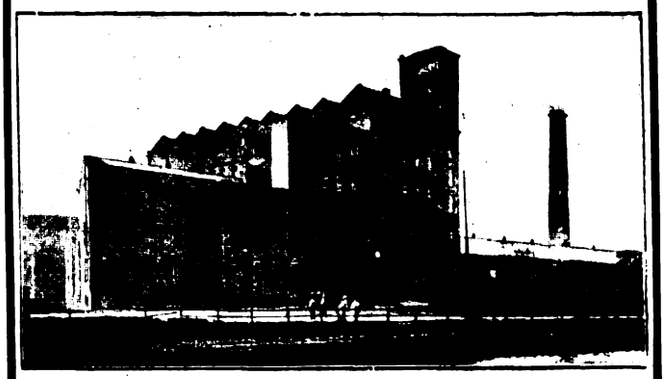
SIR,—At this moment, when so many people on the eve of their holidays have been prevented from going on the Continent, we desire to bring before our fellow-citizens in England and Scotland and oversea visitors the claim of this "one bright spot" as the safest and most attractive part of the United Kingdom. To all in search of rest or sport, or health or natural beauty, this country must appeal. It is perfectly lovely at present. Its hotels are good and comfortable. The railways offer an excellent service. The people are courteous, and welcome visitors. Ireland to-day is at once the most interesting and safest spot in the British Isles. Those who had intended visiting other scenes can now come over here, and we are confident that they will not be disappointed. Ireland is now at its best, and those who come will want to come again.—We are, Sir, yours faithfully,

LORGAN G. SHERLOCK, Lord Mayor of Dublin.
CHARLES A. JAMES, High Sheriff of Dublin.
RICHARD K. GAMBLE, President, Dublin Chamber of Commerce.
JOHN HOLLWEY, Chairman, Dublin Port and Docks Board.

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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, August 17 to 21.

Architectural Association: Excursion commences. Headquarters at Devizes.

Saturday, August 22.

Architectural Association Camera, Sketch, and Debate Club: Visit to Morden College, Blackheath.

KEEPING THINGS GOING.

THE Government, with that admirable grasp of the situation which they have displayed during the present crisis, have set an excellent example to all those who are in a position to maintain or even to stimulate the activity of the building trade by proceeding at once with their scheme for spending four millions of money in reducing the existing deficiency in housing accommodation, particularly in agricultural districts. Mr. H. Samuel, in asking leave to bring in a Bill to give the Board of Agriculture and Fisheries in agricultural districts and the Local Government Board elsewhere powers with respect to housing, and to make similar provision for Scotland, said that it was thought advisable at this juncture to pass this measure through the House as a temporary measure to be applicable only for one year. It was considered that in case there should be considerable distress from unemployment in this country it might very likely extend to the building trade, and it would be absurd in such circumstances to spend great sums of money in giving relief to persons out of work instead of setting the men to work in their own trade to make good the deficiency in housing accommodation. They contemplated to arrange with the public utility societies and local authorities for taking the necessary measures in their districts. The Board of Agriculture would proceed with plans already made for providing houses in rural districts.

The First Commissioner of Works has issued a circular letter, in which he says: "It appears from various inquiries addressed to the Commissioners of Works that there exists some apprehension lest unemployment should be increased in the building and other trades by suspension during the present crisis of building and engineering operations provided for in the estimates of the Office of Works recently approved by Parliament. It is, therefore, desirable to state publicly at once that it is the intention of the Commissioners of Works to proceed with all services in their charge, to employ as many men as possible to carry out such services, and to develop and expedite their building programme in any way practicable.

"As the Minister mainly responsible for Government building the First Commissioner of Works would wish to take this opportunity of expressing his sincere hope that private individuals, companies, firms, and contractors will spare no effort to follow the policy of the Government in this matter, so far as circumstances admit."

We have little doubt that the hope here expressed by the First Commissioner of Works will not be disappointed, and as the representative journal of the architectural profession in the City we appeal to the Corporation of the City of London to at once proceed with the works they have in hand and in contemplation, and thus maintain the ancient reputation of the City as a leader in all movements for the public weal.

The confident expectation we expressed in our leader last week has been realised and the disagreement between employers and workmen in the building trade is at an end, and as a result of the conference held between the executives of the National Federation of Building Trades Employers of Great Britain and Ireland and of the Trade Unions it has been announced that "in view of the present international crisis it is resolved that the terms last submitted by the London Master Builders' Association to the several Trades Unions be accepted, provided that the clauses relating to disability and to foremen, as well as the rate of wages to timbermen, and alteration in overtime rates for labourers, be submitted to the Augmented National Conciliation Board for final decision." It was also announced that the lock-out notices which had been served on the members of the Painters' Society will be withdrawn. It is understood that, as far as possible, arrangements will be made for an early resumption of work in London.

The termination of the building trade dispute will at once cause activity to be resumed in many large contracts that have been held up for several months. In this connection we may congratulate ourselves that at the moment of writing the Bank rate has been reduced to 5 per cent., with a prospect of an early still further reduction. This, of course, means that there is plenty of money in the country for building as well as for carrying on the war. The financial part of our campaign has been won by the actions of the Government.

In addition to the four millions to be spent on housing we are told that with a view to maintaining as far as possible the aggregate volume of employment the Development Commissioners state that they desire to do everything within their statutory powers to make immediately available the whole of the funds still unallocated, amounting to nearly a million pounds. They are prepared to deal as quickly as possible with any schemes put before them, and to make recommendations to the Treasury for loans or grants from the Development Fund to public authorities, universities, colleges, schools, or institutions, or associations of persons and companies not trading for profit for the purpose of immediately setting in operation works of improvement falling within the terms of the Statute. The Commissioners point out that so far as the Development Fund itself is concerned they are unable within their statutory authority to deal with any applications for grants or loans to companies trading for profit or to individuals. They invite suggestions, especially with regard to works of improvement connected with agriculture and rural industries (including afforestation), fisheries and fishery harbours, land drainage and reclamation, inland navigations and light railways. Such suggestions should be addressed to the Secretary to the Development Commission, 6A Dean's Yard, Westminster. Formal applications for grants or loans should be addressed to the Secretary to the Treasury, Whitehall.

It only remains for public bodies and private individuals to follow the example of the Government and

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proceed at once with any contemplated work. Architects must use their persuasive powers to allay any feeling of—we will not say panic, for there is to-day no panic in England—timidity.

Manufacturers and merchants have a good opportunity for making fresh business, but they must strengthen the hands of architects by letting them know that although their competitors in Germany can no longer send goods they can supply all necessary demands, even though they have to rearrange their business and import material across the Atlantic instead of across the North Sea and the Channel. The trade routes are open. The war risk premium is already down from five to four guineas per cent.

After all we have this advantage over Continental nations: it is only a relatively small proportion of our population that is under arms. The rest of us have got to build the hospitals for them and everything else that is required in our social organisation. The building trade should be actively busy, even prosperous, during the war.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

We regret that we have not received a larger number of examples of the very useful study that we set for our contributors for the past month—an eighteenth-century staircase in wood.

"Improver" has measured and drawn with commendable thoroughness and care a simple but admirable staircase from a house in Sunderland. This staircase is excellent for its general design, its detail, and the surroundings amongst which it is placed.

Mr. B. Fraser has found his subject in a house at 68 Watergate Street, Chester, an open-well staircase with continuous handrail, which affords a fine example of the use of ramps. The details are notable for their refinement.

We award prizes of one guinea each to "Improver" and Mr. B. Fraser.

NOTES AND COMMENTS.

Whilst we are glad to know that the Council of the Architectural Association are endeavouring to raise a body of Territorials composed of members of the architectural and allied professions, including their own members, we cannot but remember that in the old days two companies of the Artists consisted of members of the A.A., and regret that all connection with that excellent corps has now for some years apparently been severed, as it is no longer mentioned in the Brown Book as it used to be. It is late in the day to begin training when war is declared, but better late than never, and we hope that the A.A. will once again find the material for two, or even more, strong companies and continue to do so.

Now that hospitals are being rapidly improvised for the reception of our expected wounded, it may be worth while recalling the criticism on our hospital system as given by Dr. Franklin H. Martin to the *Times*. In an interview he said:—

"The condition that amazes the surgeon of North America is the method of conduct of hospitals in London. A group of these great palatial buildings, occupying acres of the most valuable land in the capital of the world, are devoted exclusively to the care of the non-paying patient, and exclude from the advantages of these equipments the patient of moderate means, and render them prohibitive to patients of wealth. These hospitals with their large endowments should furnish the most elaborate equipment of operating room and laboratory diagnostic facilities that can be produced by an institution with unlimited resources. With this equipment the leading surgeons of London spend a third of their time and energy in caring for individuals presumably unable to pay for their hospital accommodation or for the surgery that is performed upon them. This same surgeon, who of necessity is in great demand by the paying public, is obliged to operate upon patients of means in private hospitals that cannot afford the equipment of the endowed hospital, or in the homes of their patients with imperfect, makeshift arrangements. Why should a great group of the less fortunate class of the people be forced to accept free beds and pauperism, when they could well afford, and in many cases be glad to pay, a small sum that would cover their hospital fees? Why should the next higher class of individuals be deprived of hospital facilities of any kind between the high-priced nursing home and the pauper bed? Why should the wealthy patient be unable to take advantage of the highly developed operating-room technique?

"Such a system, we think, inflicts an almost prohibitive penalty upon the great surgeons of the great hospitals, as it necessitates their operating not only upon the poor who are operated upon in their well-equipped hospitals, but also upon the middle-class in the poorly-equipped nursing home, and a third class in the wealthy homes or the better-equipped nursing home. Each of these surgeons is obliged to operate in three distinct environments every day of his life, with different assistants, with different operating rooms, and in many cases no operating rooms at all. On the Continent of America the best hospitals are equipped to care for all classes of patients. The operating-rooms are perfectly equipped, and can be utilised for pauper and multi-millionaire alike.

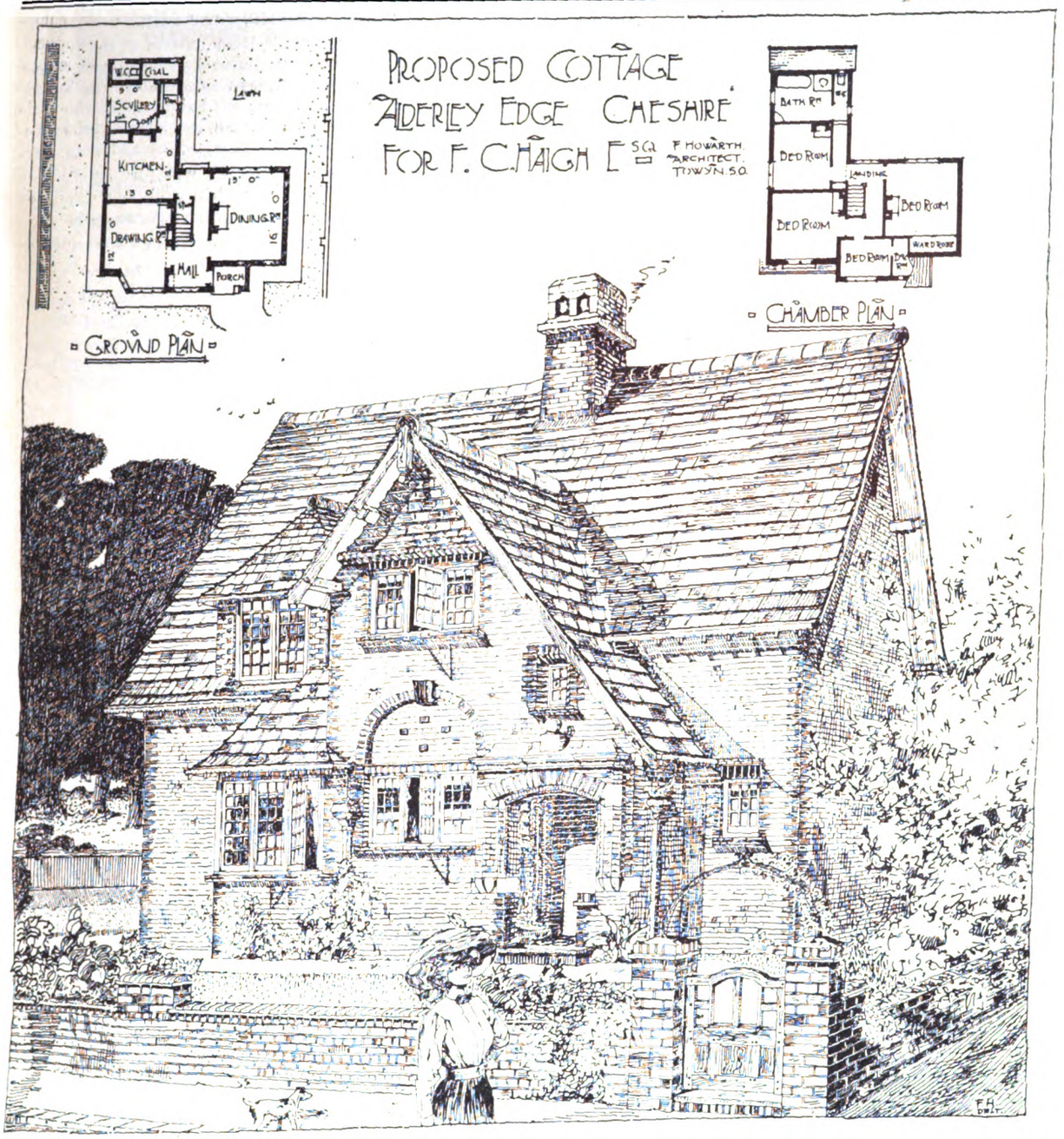
"Women in Chicago, whose wealth can be counted by millions, go to the hospital to be confined, because they know that at the hospital the surgeon works in his accustomed environment and he is completely equipped for his work. A week later the patient returns to her home on an ambulance accompanied by her nurse. In the hospitals of the United States surgeons, whether on the staff or not, are encouraged to bring their private patients for operation; and the result is that we have ten surgeons for one in England. Sometimes an American surgeon will operate on three wealthy patients in one morning, before the students in the common operating theatre, perhaps receiving 200 guineas for each operation. These wealthy patients are removed to palatial rooms in the hospital. Between these operations the poor are brought in and operated upon with the same skill and care as that given to the wealthy. When President Roosevelt was shot he was taken to a general hospital, and we knew from the first that he was all right.

"In this country the non-paying patient occupying the large hospitals is in a position to be better cared for than the middle class or the wealthy class. Naturally it would be difficult for the English public to understand how a hospital could be so equipped that all classes could be accommodated in it with definite comfort to each. I am quite sure that any English surgeon, however, would admit that he could do better work in one well-regulated operating room than in several, or in private homes. I predict that the English middle class and the wealthy class will soon demand the same high-class hospital accommodations that are accorded exclusively to the poor."

SCHOLARSHIPS FOR THE BUILDING TRADE.

In connection with the development of garden suburbs on Co-partnership lines, three scholarships are offered annually by Mrs. Thomas Thornton to the workmen who show the most interest in the educational work promoted by Co-partnership Tenants, Ltd., during the winter. These scholarships entitle the holders to a tour on the Continent, during which time wages are paid. Owing to the war, however, this has been postponed. The awards have just been made, and we learn that the successful students are Messrs. L. C. Godfrey, carpenter engaged on the Hampstead Garden Suburb; W. Pullen, Ealing Tenants' Society; and Sidney N. Cartwright, engaged in the development of

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the Liverpool Garden Suburb. Prizes have also been obtained by representatives of the Architects' Department of the Co-partnership Tenants, Ltd., and the Garden Suburb Builders, Ltd.

COTTAGE, ALDERLEY EDGE, CHESHIRE.

This cottage, now being erected for Mr. F. C. Haigh, has eleven-inch cavity walls on concrete foundations; facings are in Potts' clamps of varied colour and dark quoins; roofs are covered with stone roofing tiles from Burton-on-the Water, Glos., laid in graduated courses, and have swept valleys. A gas copper and stove are provided, and electric light. Finish is in white enamel and solignum. Cost, £475. Mr. J. Howarth designed and is superintending the work.

COMPETITION NEWS.

Deptford.—Mr. A. W. S. Cross, F.R.I.B.A., has been appointed assessor in the competition for proposed baths and wash-houses which is being arranged by the Borough Council. The approximate estimate of cost is £5,000, and Mr. Cross will receive an honorarium of thirty guineas.

Doncaster.—The Corporation have invited Mr. P. Abercrombie, of Liverpool University, to act as assessor in the architectural competition for their housing scheme.

Dundee.—The School Board propose to erect a new school in Bellfield Street, Dundee, and are prepared to receive designs for the building in competition. The competition is limited to architects in practice within the municipal boundaries of the city of Dundee, or ordinarily residing therein. All questions in regard to the conditions of the competition should be sent in not later than Thursday, August 20, after which date no further questions can be answered. The Board have appointed Mr. Alexander N. Paterson, M.A., A.R.S.A., F.R.I.B.A., Glasgow, to act as their assessor. Mr. John E. Williams, clerk to the Board, School Board Offices, Dundee.

Manchester.—In connection with the architectural competition for the erection of semi-detached cottages on the Blackley estate, the City Council have approved the following awards: First premiated design (No. 28), Mr. John Gibbons, Manchester; second premiated design (No. 20), Mr. J. C. Thompson, Manchester.

ILLUSTRATIONS.

CHURCH OF ST. THOMAS ON THE BOURNE, SURREY.

The first portion of this church was consecrated in 1911, the chancel and vestries being structurally completed, but are waiting any mural decoration until the remainder of the church is built. As the plan shows, three bays of the

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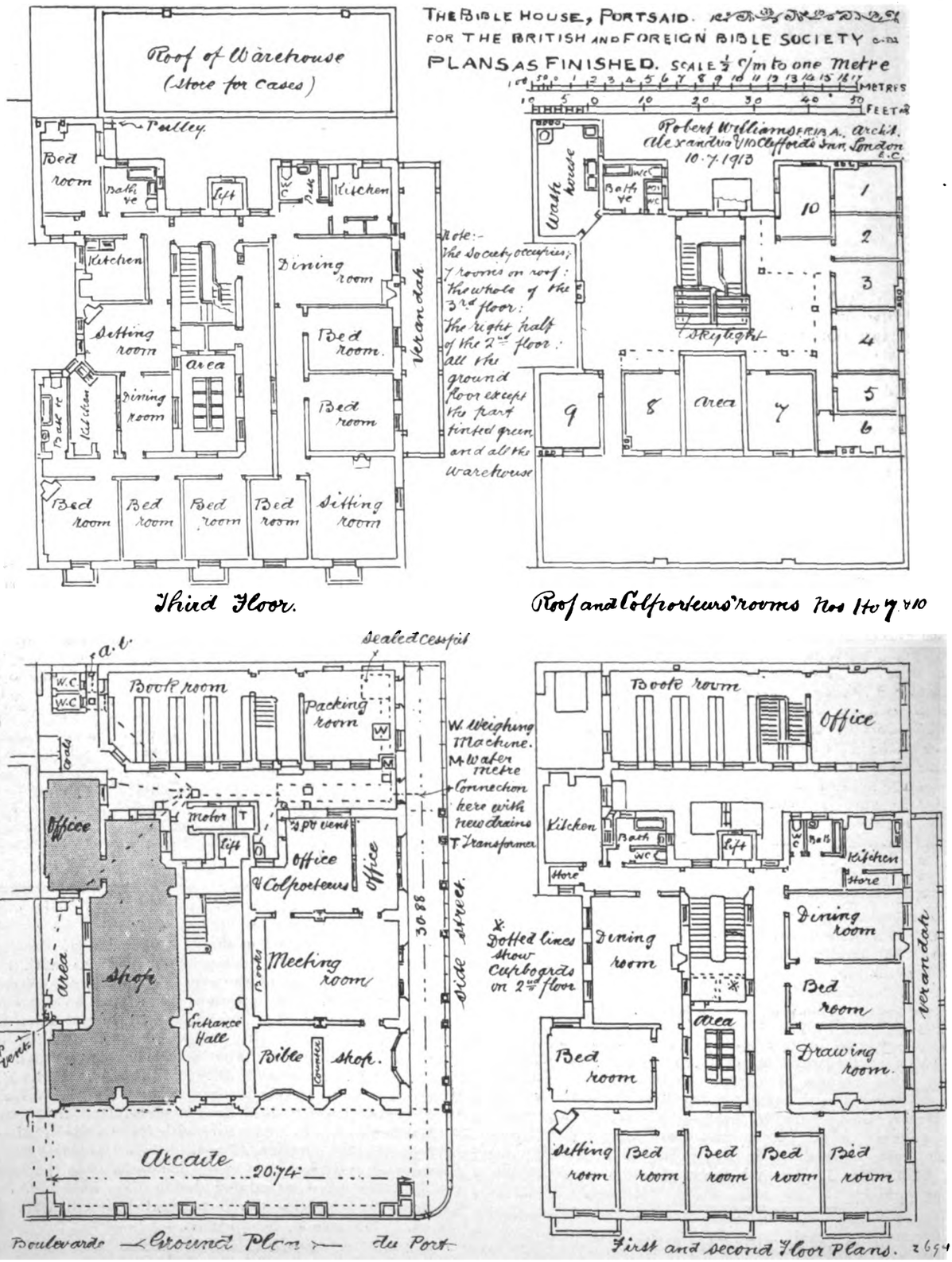
nave are already built, but at present without the clerestory, a temporary iron roof covering that part and also the aisles. The materials used are Bargate stone and red sandfaced tiles, with Doulting stone dressings, the interior being plastered in order to receive mural subject paintings. The materials of the old church, when pulled down, will be re-used on the new site as a Lady chapel, and a massive square tower will complete the west end. The church stands in the centre of a very popular and growing district on the Surrey Hills, and has a feature of a special portion given up to invalids, who can be wheeled into it in their chairs, by a level entrance below the organ loft, which has a sound-proof floor. This portion is on a level with the altar rails. The architect is Mr. Henry S. Sidebotham, and the builders were Messrs. Bardon & Mills, of Farnham.

THE BIBLE HOUSE, PORT SAID.

This building, the Near East headquarters of the British and Foreign Bible Society, was opened on February 6, 1912. Mr. Robert Williams, F.R.I.B.A., was the architect, and Messrs. A. De Farro & Co. were the builders.

The façades are built of English buff pressed brick, the arcades and lower dressings are in white and grey Pentelicon marble, which was imported in the rough and worked on the job by Greek masons. The upper dressings are in white Italian limestone, and the staircase is in Trieste stone. The lift is by Messrs. Smith, Major & Stevens, of Northampton. The collapsible gates, ironmongery, &c., were supplied by Messrs. Matheson & Williams.

The plan herewith will explain the general arrangement, and the four photographs will explain the character of the work generally. The six colonnettes to the entrance doorway are of Cippolino and Rosso antico.



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ROYAL ARCHÆOLOGICAL INSTITUTE SUMMER MEETING.—V.

The large party attending the Summer Meeting of the Royal Archæological Institute at Derby felt all the fresher for the quiet rest on the previous day when they resumed their activities on

Monday, July 20.

A commencement was made at 9.35 A.M., when a train journey was made through some lovely scenery, including the Matlock district, to Bakewell. Here a change was made into motor char-à-bancs for the half-hour's drive to

YOULGREAVE CHURCH,

where Mr. P. H. Currey, F.R.I.B.A., the hon. local secretary for the meeting, gave an account of the building, of which we give a lengthy report. The inconsiderable importance of the church might hardly seem to justify so much space in our columns, but Mr. Currey covered a good deal of ground outside the walls of the church, and dealt with his subject generally.

In begging leave to speak of the church from the point of view of an architect rather than that of an archæologist, Mr. Currey expressed a fear that the visits paid by the Institute to Derbyshire churches might have increased the feeling of horror with which some archæologists regarded his profession. Even in Youlgreave, which has been for many years looked upon as a model of conservative restoration, one cannot help feeling that the spirit of the old work is gone, and that there is a fussiness and restlessness. Some archæologists, on the other hand, have no comprehension of the spirit underlying ancient workmanship, nor of its true beauty. One such, who was capable of dating old work within ten years or so, pointed out to him as a model of what a modern church should be a travesty of Gothic architecture of the most blatantly vulgar description. That kind of outlook reduces archæology to a dead and lifeless science.

At Domesday the Manor was held by Henry de Ferrars, in the time of Edward I. it was held by Ralf de Shirley under the Earl of Lancaster, and afterwards passed to the family of Gilbert, some of whose memorials are in the church. Since 1685 it has been the property of the Earls and Dukes of Rutland. The church of Youlgreave, with its chapels, lands, and tithes, was given to the Abbey of St. Mary at Leicester in or before the reign of Henry II. In 1552 Edward VI. granted the Rectory and the advowson of the vicarage to Sir William Cavendish, in whose family, represented by the Duke of Devonshire, it remains. Dr. Cox mentions a curious fact in connection with the advowson: that in 1546 John Wilson was presented to the Vicarage by Andrew Love and others, by leave of the Abbey of Leicester; and that in 1551, when Richard Kynveton was instituted, he is entered in the Episcopal Registers as being presented by the Abbey; both dates being subsequent to the Suppression.

Youlgreave Church has been locally known as the "Queen of the Peak," Tideswell being the King. To its massive and dignified tower it doubtless owes this not unmerited title. The bearing of so proud a title by so simple a building might at first seem incongruous. But Derbyshire churches are marked by a rudeness of workmanship and a lack of elaborate detail. This is doubtless largely owing to the somewhat intractable nature of the native gritstone, and also to the remote and inaccessible character of the district in the Middle Ages. This rudeness, and especially the often indefinite outlines of the mouldings, make it very difficult to satisfactorily put a date to the buildings, and when these are complicated, as is very often the case, by repairs and alterations made after the Reformation, and carried on more or less in the traditional manner, the task of piecing together the consecutive development becomes still more uncertain. In Youlgreave Church itself there is much that is puzzling. There can be little doubt that the south arcade is the oldest part of the present structure; the capitals are crudely worked and have a curious scallop decoration; but the peculiar part is that the base mouldings are evidently worked by different hands, and suggest a later date. Possibly the rude Norman bases were re-dressed in the thirteenth century. The north arcade is still more puzzling. It is, presumably, of about the end of the twelfth century, and contains some remarkable detail. But the chief difficulty is in the setting out of the columns, which are not in a straight line between the responds, though such a straight line would have kept the north wall practically parallel with the south. The arches above make a compromise between the two. Most of those who have had practical dealings with old buildings, who have noted the very careless setting out and the extraordinary results caused by movements in the ground and in the structure of the walls themselves, would hesitate to suggest architectural refinements as an explanation. Though one must acknowledge that the mediæval builders had sufficient artistic perception to see that absolute mechanical precision was not necessary or desirable, the loss of this perception and modern methods of workmanship, added Mr. Currey, sometimes make one despair of the possibility of working in the Gothic style at all at the present day—the restored windows in this church tend to confirm such doubts. As to this north arcade, the only chance of getting at a solution would be to excavate for the foundations of an earlier church. In the north aisle is a blocked-up doorway of about the same date as the pillars: if it is in its original position the aisle must have been of unusual width for the period.

Little of the original window tracery is left; in the south aisle is one of those very plain early fourteenth-century windows so common in Derbyshire. There is the usual large chancel—added possibly in the fourteenth century—but it has been so much pulled about it is impossible to put a date to it. Over the chancel arch is the cote for the sacring bell, apparently much restored. An unusual feature of the church is the long westward extension of the nave beyond the ends of the aisles which, in combination with the large clerestory, gives considerable dignity to the interior. The clerestory windows, as in so many Derbyshire churches, have been remodelled in the seventeenth century. The church is fortunate in having preserved a great part of its fine roofs, the beams of which are very effectively moulded; nearly all old Derbyshire roofs have been replaced with varnished deal. The floor of the nave has a considerable slope downwards from west to east, and one must be grateful to the architect of the restoration of 1870—Mr. Norman Shaw—for not destroying this interesting feature. Our churches have lost much through destruction of the original floor levels and the fetish of an elevated altar. It is often said that it is "correct" to have seven steps to the altar, quite regardless of the size and proportion of the building. (Mr. Shaw has given them seven here, and has had to fake his windows outside to fit in with them.) The mediæval builders were not troubled with this kind of thing; they often let their floors just follow the ground.

The great tower at the west end is, of course, the crowning glory of the church. Its eight pinnacles of equal height and well proportioned battlements give an air of dignity and repose. If one might venture a criticism it would be that it has the defect, so common in Derbyshire towers, that the weatherings of the buttresses are placed at almost equal distances right from bottom to top. But the whole composition illustrates the almost unerring instinct with which the old builders fitted their work to its situation. Crowning a hill, yet in a valley, its simple outline fulfils the truest test of good design—that in its place it seems natural and inevitable.

Particular attention should be paid to the font, with its curious projecting stoup at the side, supported by a salamander. It is said that this font does not belong to Youlgreave, but that it was originally in its chapel at Elton, from which it was evicted, and that it was fixed in this church in 1838. Only the bowl is original, the workmanship of which suggests the beginning of the thirteenth century. Dr. Cox, in his "The Churches of Derbyshire," after mentioning several theories as to its purpose, concludes that its probable use was for holy water, the font being placed near the door and serving the double purpose. But in an article on the font by Mr. Le Bland Smith, published in the Derbyshire Archæological Society's Journal, reference is made to a later suggestion of the doctor's, that it was intended to hold a vessel used to catch the water in cases of baptism by immersion. For such a purpose it seems somewhat inconvenient.

In the south aisle are some ancient seat ends with the linen-fold pattern. The design and work is rather crude, as is most Derbyshire woodwork.

Turning to the memorials, the oldest, if we except possibly the fragment of an incised cross built into the wall of the porch, is the fine recumbent figure on the north side of the chancel. The effigy is cross-legged with a dagger at the side and holding a heart in its uplifted hands. There is no inscription, but the monument is traditionally assigned

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to Sir John Rossington. Dr. Cox attributes it to the beginning of the thirteenth century, and the workmanship suggests that period.

In the centre of the chancel stands an alabaster tomb of most beautiful workmanship. This, of course, would not be local work, but would doubtless be made by the then celebrated "marblers" at Chellaston. There is no inscription, but it is said to record Thomas Cokayne, who was killed in a private quarrel in 1488. The figure is in plate armour with a shirt of chain, the head resting on a helmet with the cock as crest; it is a beautiful example of the Derbyshire alabaster work at its best. Round the sides are angels bearing shields with the arms of Cokayne, Harthill, Rossington, Shirley, Vernon, and other well-known families of the neighbourhood. This monument was moved here from a more suitable position in the Gilbert quire.

A most interesting memorial is that at the east of the north aisle to Robert Gilbert and his wife (died 1492). This again is alabaster work, and represents the father and mother with seven sons and ten daughters paying adoration to the Blessed Virgin and her Child. The treatment of the subject suggests that it was intended to form an altarpiece, or at any rate to be fixed against a wall, as at present, though the inscription running all round and the wording almost imply that it originally covered the tomb. Close to the monument is a quaint little brass to Frideswide Gilbert, with a figure in Elizabethan dress. This, like the two just mentioned, was formerly in the south aisle. What a pity it is, remarked Mr. Currey, that the story of the church should be disturbed by this thoughtless shifting about of ancient memorials!

The glass in the east window is not archæological; it was made by Morris from designs by Burne Jones and became rather notable when first put in. To us now it is, perhaps, too suggestive of the early days of the æsthetic craze. But the glittering tiles and the general treatment of the altar hardly give it a fair chance.

Sir William Hope, commenting on the latter point raised by Mr. Currey, said it was satisfactory for some of them to know that the firm of Morris had given up supplying windows to old churches, for they were quite unsuitable. He agreed with Dr. Cox's suggestion that the font with its projecting stoup was a combination of font and holy water basin.

Rev. Mr. Hill pointed out that baptism by immersion was difficult, for the infant will not sink and displaces a certain amount of water which overflows. Possibly the stoup, if it had a hole pierced to the bowl, would just prevent this.

That section of the Royal Archæological Institute which finds mediæval buildings somewhat monotonous were able to rejoice in the hour spent at the stone circle known as

Arbor Low.

This is situated about a quarter of a mile from the road on a long ridge of hill nearly 1,200 feet above sea-level five miles south-west of Bakewell. According to the excellent account of the remains given in the official programme the plateau on which the megaliths lie averages 160 feet in diameter and is encompassed by a fosse within a vallum. The periphery of the crest of this rampart constitutes not quite a true circle with a diameter of 250 feet. The fosse has a medial diameter of 190 feet and, as seen on the surface of the silting, is not truly circular. The crest of the vallum is 6 feet above the central plateau and 12 feet above the surface of the silting of the fosse. The continuation of the earthwork and ditch is interrupted on the north-west and south-east by the entrance causeways, which are not in line with the central group of stones. The circumference of the crest of the vallum, including the entrances, is about 808 feet. On the north-east, adjoining the external face of the vallum and partly resting upon it, stands a tumulus, examined in 1770, 1782, and 1824, and lastly by Thomas Bateman in 1845, when a limestone cist was discovered, containing calcined human bones, a bone pin, pyrites and flint, and two small urns. There can be no question that this barrow is of later date than the vallum. The figure formed by the ring of stones is pear-shaped, with the bottom of the pear to the south-east. These unhewn slabs of mountain limestone are now all more or less recumbent, with the exception of one which leans north-east at an angle of about 35 or 40 degrees. Nearly all the stones lie more or less in the direction of radii of the "circle." The longest stone (14·2 feet) and the widest (8·6 feet) form part of the central group. In 1901 and 1902 excavations, organised by the British Association, were carried out under the direction of Mr. H. St. George Gray. Six cuttings were made into the fosse, two through the vallum, two in the interior space, and two cuttings in connection with a small dyke outside the vallum on the south (where a finely-chipped flint knife was found). In the area covered by the central group of stones were found one or two worked flints, a flint scraper, and an extended human skeleton. The osteological evidence seems to indicate that this interment is of much more recent date than the earthwork. The excavations of the fosse revealed the solid rock sides of the causeways and proved the bottom in most places to be very uneven and irregular, with no attempt to obtain a smooth face and bottom. Several flint implements, including scrapers and the greater part of a leaf-shaped arrow-head, were found in the silting of the fosse, and on the bottom one typical tanged and barbed flint arrow-head. This form, being usually regarded as a late development in neolithic flint-working, indicates the late neolithic period as the probable date during which the fosse and vallum were constructed. The total absence of bronze is, of course, not conclusive, since great care would be taken to avoid losing pieces of metal during the progress of the work. The date of construction, therefore, might be located within the period covered by the late neolithic and early bronze periods; in other words, the period of transition from stone to bronze, to which the barrows in the neighbourhood also belong. Since the Arbor Low excavations were carried out similar work has been in progress at the "Stripple Stones" in Cornwall and more recently at Avebury, both these circles also having the vallum outside the ditch, like Stennis in the Orkneys.

Professor W. Boyd Dawkins, D.Sc., F.R.S., said that this wonderful temple of Arbor Low, for temple it was beyond all doubt, was of the very greatest interest—perhaps the most important archæological monument in the Midlands. The structure of these places was easily understood. First of all, there was a ring or rampart all round, and on the inside of that rampart was a ditch. Inside the ditch there was a ring of stones enclosing an irregular plateau. The fact of the ditch being inside the bank took the structure outside the category of fortifications; the only reasonable supposition was that it had served as a temple. When one refers to other erections of this kind, like Avebury, we find there is a great earthen rampart running round the fosse or ditch; then come the remains of a ring of stones surrounding the central plateau. The only difference between it and Arbor Low is that Avebury was much longer and the few remaining stones are much larger. There were one or two other instances of places of this kind in other parts of the British Isles. Derbyshire itself was richer than many people imagined in the remains of these temples. No other county in England was so prolific in pre-historic circles as Derbyshire. At Dove Holes there stood in former times another circle of exactly the same character and diameter—viz., 250 feet—as Arbor Low. He was informed that there existed several other circles in the county which have not yet been described, all of them smaller than Arbor Low, and which were to it as a parish church is to Westminster Abbey. If one went as far as the Orkneys one saw in the Stennis another great circle reproducing the features of Arbor Low exactly; again, the "Stripple Stones" of Cornwall gave evidence of a peculiar type of remains which could only, in his opinion, be classified under the name of temples. Professor Dawkins was of opinion that all these stones, which are now very nearly flat, were originally erected on end. As to the date, he said that excavations made in the fosse, in the rampart, and in the interior revealed a number of flint implements, every one of a type occurring in the surrounding burial grounds, which clearly belonged to the Bronze Age. Further evidence as to date was presented by the discoveries made in the tumulus on the south-east side of the southern entrance, and which contained remains extremely common in the tumuli of this district, including pottery characteristic of the Bronze Age. They found a strike-a-light, or a fragment of pyrites, and a bit of flint, which were the flint and steel of the period before steel or iron was known. Other evidence was afforded by the innumerable burial mounds, which lie scattered round in the immediate neighbourhood of Arbor Low. The fact that nine-tenths of these belong to the Bronze Age is one of the accessory pieces of evidence as to Arbor Low being referred, like Avebury and Stonehenge, to an early period such as the Bronze Age. For a great temple of that kind there must have been

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worshippers, and if there were people in the neighbourhood one would naturally expect to find their burial mounds. In prehistoric times the carboniferous limestone of Derbyshire, continued Professor Dawkins, was very bare and without trees. Consequently it was the only land available to the inhabitants without the trouble of clearing. Therefore, he continued, the first farmers or herdsmen in Derbyshire dwelt on these dry uplands and made Arbor Low one of their centres. The number of burial mounds proved that the population was mainly scattered in such places. Very few of these mounds belong to the Neolithic Age; the main mass belong to the Bronze Age, as is proved by the bronze implements and ornaments and characteristic flint implements. There are others which are later still. Some explored seventy years ago by that great archæologist, Mr. Thomas Bateman showed signs of belonging to the prehistoric Iron Age, but in that age they mostly burned their dead, and no traces can be found of their burials. Roman remains are discovered in many cases. A skeleton had been dug up in the centre of the circle at Arbor Low, but it was of a very much later date than the structure itself. The story of Derbyshire so far as it related to Arbor Low was that it was a place of worship for a people who buried their dead in the numerous lows round about. For the purpose of knowing the physique of the people who had gathered there he studied the skulls collected by Mr. Bateman, which were now in the Weston Park Museum, Sheffield. Among those who came to the place were some of the ancient people who came in the Neolithic Age—smallish men with black hair and black eyes, long-headed, with elegantly shaped features, and altogether very neat and trim: the ladies were brunettes. This race was still represented in the county, and their remains had been met with in a good many of the tumuli. They also found traces of the people who invaded them; these made their appearance for the first time in this country in the Bronze Age, introducing the arts of bronze; they settled in force in the very place which had been occupied by the Neolithic aborigines. These newcomers—goidels—were broad-headed folk belonging to the older division of the Celtic race—people whom we had just been feeling very acutely in the Ulster portion of Ireland. In the interments of that time are found their peculiarly characteristic round heads, fairly tall forms, broad faces, fairish hair, high cheek-bones, and very largely developed brains. He had not the slightest doubt, from Derbyshire place names, that the Britons, a later stage in the ethnology of this country, and the ancestors of the Welsh, were also present at Arbor Low. Thus all three elements were represented. In Derbyshire 207 lows were marked on the maps, and this total was only a very small fraction of the real number. The prehistoric roads ran along the ridges; the Roman roads were the last of the soil-made roads. In answer to a question Professor Dawkins said he looked upon Stonehenge as further advanced than Arbor Low, and therefore probably later. No bronze had been found here, only bronze pottery.

Sir William Hope pointed out that at Arbor Low, as at Avebury, the stuff had been merely chucked out instead of carefully placed; there was no attempt to dispose of the stuff in an orderly manner, as for defence. In fact, there could be no question of defensive work. There was a close analogy between Arbor Low and Stonehenge. One difference is that at the latter place the axis is east and west, while at Arbor Low it is north and south. Some years ago, at a meeting of the Royal Institute of British Architects, after a paper had been read on the subject of Stonehenge by Messrs. Penrose and Lockyer, he (the speaker) asked how Stonehenge could, as they claimed, possibly have been roofed. The discreet silence which ensued had never yet been broken.

Arbor Low, as already mentioned, caps a breezy, treeless upland. And it was fortunate that the weather there was fine and sunny while the party were hastily investigating it. The austerity of the immediately surrounding scenery, made a great contrast to the well-wooded dales and running water about Bakewell, to which a return was made for lunch prior to visiting

Bakewell Church.

Here Colonel H. Brooke Tayler read a paper prepared by the Bishop of Derby. His lordship is an enthusiast, in spite of his sad tale of ruthless "restorations" during the past century. "To me," he said, "it remains a church by itself individual and lovable above thousands far more beautiful in design and rich in ornament. There is nothing quite like it that I know, even now when more than three-quarters of what was there 100 years ago has vanished for ever and been replaced with much devoid of living inspiration." The church is a large cruciform building with octagonal central tower and spire. Its foundation goes back to Saxon times, and there is in the south porch a big collection of crosses, tomb slabs, and other Saxon and later carved remains recovered from the walls during the 1840 restoration. But the present structure is mainly of fourteenth-century date, though there are interesting traces of the twelfth-century building, the west front and doorway of which remain, with the foundations for the squat north-west and south-west towers, resembling those at Southwell and Melbourne. A few years ago there were discovered the four bottom courses of these two western towers, laid without foundations on the ground; apparently the rapid fall of site to the east caused an abandonment of this project, and a prolongation 15 feet eastward instead. In the thirteenth and fourteenth centuries a considerable amount of extension and rebuilding was carried through. The "restorations" may be dated from the taking down of the spire in 1828; this was followed by much more extensive work in 1840 and 1852. In 1881 Gilbert Scott the younger carried through work which showed a knowledge and originality that other modern work in the church somewhat lacked. It is worthy of note that that "great archæologist" Thomas Bateman despoiled the choir of a good deal in 1840; for instance, he removed to Lomberdale Hall a stone screen 3 feet 6 inches high which separated the chancel from the tower crossing, a pre-Norman tomb, and choir stalls. A considerable portion of his booty was restored to the church a few years ago by the trustees of the Weston Park Museum, Sheffield, where the Bateman collection now is.

The principal tombs are in the east aisle of the south transept—the Vernon Chapel. These include the altar tomb of Henry Vernon (1477); another of Sir George Vernon (the "King of the Peak" and father of the famous Dorothy), and of his two wives (1567); the kneeling figures of Sir John Manners (died 1611) and his wife Dorothy Vernon (died 1584)—on the shield are sixteen quarterings for Manners and twelve for Vernon, and a large monument of Sir George Manners, their son. Another interesting object is the fifteenth-century oak parish chest, bound with iron clamps and three locks.

An important "extra" to Bakewell Church is the fine pre-Norman cross in the churchyard which Bishop Forrest Browne, late of Bristol, contended cannot be of later date than 750 A.D., "and has not been damaged since it was overthrown and the crucifixion carving defaced in Danish invasions." The Bishop of Derby suggests the carving on the east face may illustrate a Scandinavian legend, while that on the west is Christian. The octagonal font, with a symbolical picture on each face, dates from the middle of the fourteenth century, and shows the rough but vivacious work of some local mason.

Bakewell Church, however, owes a grudge against over-zealous, if well-meaning, restorers. And it was without much reluctance that the road of the morning running parallel with the Wye was retraversed for a couple of miles as far as

Haddon Hall.

The original condition of this romantically placed and beautiful house was probably a palisaded enclosure with a tower at the upper end at a point corresponding to the north-east corner of the present buildings. The earliest part of the building is the nave of the chapel, with the single twelfth-century pillar of its south arcade; this was not merely the domestic chapel, but the chapel of the township of Nether Haddon (distinct from Over Haddon), and probably stood outside the earliest enclosure. Soon after 1190 Richard Vernon had a licence from John, Earl of Mortain (afterwards King John), to strengthen his house of Haddon with a wall 12 feet high without crenellations, and this still exists on the east, west, and south of the present building. The north-east tower, originally the principal entrance, and the hall between the two courts were built early in the fourteenth century, and the block south of the hall, with cellar and great chamber, is substantially of the same date; the battlements and porch-tower of the hall were added by Sir Richard Vernon (died 1376), who married the heiress of the Pembridges. The oldest part of Haddon, therefore, is, with the exception of the wall, the hall block. No doubt this had the usual cellar and great chamber at one end, and the kitchen offices at the other. The other works are just what might be

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expected from a mediæval house continually in occupation and which grows and grows until it finally assumed its present form. During the fifteenth and early sixteenth centuries the two courts were gradually surmounted by buildings, the western range and the present entrance tower at the north-west corner being completed by Sir George Vernon (died 1567). His grandfather, Sir Henry (died 1515) turned the cellar behind the hall into a dining-room, and may be credited with the rebuilding of the kitchen block north of the hall. The alterations in the great chamber or drawing-room, with the beginning of the long gallery on the south side of the upper court and the stair from the dais of the hall, may have been the work of Sir George, but the decoration of the gallery was certainly completed by John Manners, who married (but did not elope with) Sir George's daughter and co-heiress, Dorothy, and was knighted in 1603. Haddon continued to be lived in until about 1710-15. Fortunately the place was not allowed to fall into ruins, though deprived of its furniture. For some years past it has been under the complete charge of Mr. Henry Rye, who, in acting as clerk of the works, has proved himself a most efficient antiquary. As Sir William Hope remarked, no one could be better entrusted with the work, for it has been done so well that, though it is perfectly honest repair, it does not show. The present owner—the Duke of Rutland—is extremely solicitous for its safety, and, like many responsible for the safety of our historic buildings, has been much perturbed by the series of outrages by suffragettes. This explains the great sheets of corrugated iron propped against the inside of the windows.

Haddon is, as Sir William Hope pointed out, an extraordinary museum of things. Among the numerous features of this remarkable house may be noted the large amount of woodwork and panelling of various dates, especially the screen and minstrels' gallery in the hall, the early sixteenth-century panelling of the bow-window and fireplace in the dining-room, the oak wainscotting of the long gallery, and the plain seventeenth-century screen, gallery, and pews in the chapel. The long gallery has a plaster ceiling of simple design; there are more elaborate plaster ceilings on a small scale in some of the lesser rooms; and the plaster cornice in the drawing-room is a work of much delicacy. There is fifteenth-century glass in the chapel, and later glass in the windows of the dining and drawing rooms. There is also a large amount of tapestry in the drawing-room and the rooms on the east side of the upper court: some of that displayed on the walls, especially for the Royal Archæological Institute, was made up under the superintendence of Mr. Rye from fragments. Traces of wall-paintings may still be seen in the chapel. The lead rain-water heads outside the house deserve careful examination.

(To be concluded.)

BINCHE.

By John A. Randolph.

In our article on the "Call of Belgium" we made brief mention of this interesting and picturesquely surrounded little town, which boasts of a population of 12,000 nevertheless.

It is on the line from Brussels to Chimay, and just south of the La Louvière coal-mining district. Indeed, the view from the hills on the south shows a background to the town of a smoky settlement and many factory chimneys, and a quantity of black pyramids of varying sizes, all large, creeping closely up to the town; but when we saw it from the train, on our way to Lobbes and Thuin, the smoke was tinged with the light of the sun sinking in the west, and the sky was taking on an evening hue, the smoke looking more like a fog in the distant valley than what it really was.

Behind that mining centre were distant hills, of somewhere in the neighbourhood of Rœulx and Soignies, and they blended with the darkening sky, being slightly undefined in outline, and, to the eye, of a dark grey shade.

The time of day, the season of the year, and the state of the weather could hardly have been improved upon for the presentment of such a scene, and the combination of all three at once was a welcome piece of good fortune for any visitor from foreign lands, and was bound to give him a deep and lasting favourable impression.

This little town is one of Belgium's rare examples with old fortified walls, and they extend round the greater part of the old section.

They were built by Count Baldwin IV. of Hainault in the first half of the twelfth century. The towers and walls have been razed to ground-level, but the old town being on an elongated eminence, the lower part of the fortification is of considerable height and very impressive. The best point of view is from the railway at Hurtebise Bridge, on leaving the station for Chimay, whence one perceives a large portion of these ramparts, with four of the massive round towers, and, at the top, the park, with the fine old church of St. Ursmer peering through the trees. Certain parts of the walls which have deteriorated are to be restored, thus almost completing the enceinte.

On the Grand' Place is the Town Hall, with belfry (and of course a carillon in it). The Town Hall dates from 1554 to 1562, after the burning of the town by Henri II. at the orders of Mary, Queen of Hungary and "Dame" of Binche. She was also a sister of Charles Quint and Regent of the Netherlands. The architect was Jacques du Brœucq. It is a picturesque structure; the façade was freed, in 1886-99, of its plaster covering of about a century old, and its three arches were then discovered blocked up. The interior, remarkably well restored, contains the Salle



CHASUBLE OF THE SEVENTEENTH CENTURY. AUSTRIAN EMBROIDERY.

des Mariages on the ground floor; the Burgomaster's room and the splendid Council Chamber, with quantities of old views, prints and photos, portraits, and so forth, are on the first floor. This chamber is soberly designed in the Flemish style, and there is a handsome blue-stone chimney-piece of the kind usually found in such buildings in Belgium. The ceiling, beamed, is of oak, also the panelling on the walls. The whole effect is very satisfactory.

The building which serves for Law Courts—the "Justice de Paix"—is Gothic and modern, in the Flemish fourteenth-century style, and worked in white stone, with bands of pale blue stone. Mr. Saintenoy designed it. The station, in red brick and blue limestone, is on a huge scale at the top of a square which is laid out in grass plots edged with kerbing and low arched border-guards, so frequently seen abroad in public gardens. The station is Gothic, but not without a touch of Flemish Renaissance about it. Mr. Langerock is the architect.

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Close to the church, on the other side of the road, and practically abutting on the grounds of the priest's house, is the cemetery chapel, of simple Gothic, and now called Notre Dame de Pitié—formerly St. Andrew's. It is in two parts. In the atrium are carved brackets supporting the ribs of the wooden roof. One shows an Emperor holding the globe and sceptre, a skeleton standing by, showing



RELIQUARY OF THE TRUE CROSS.

by his hand that the last hour has come for the ruler; similarly treated is a Pope, with his tiara, and hands joined, but grasped in this instance by the skeleton. On other brackets are angels with instruments of the Passion, St. Andrew and St. John the Evangelist. The horizontal beam placed against the interior of the gable has, at both ends, a head of a monster supporting it, and in the middle the flower of Death—a pansy—with a death's head in its centre.

In the second part of the chapel the chancel proper—the rib mouldings and the carvings of foliage and branches, beautifully executed, should be noted.

A rather clumsy Pièta, an Ecce Homo (of oak), and some damaged wooden statues are here and there in the chancel.

On the walls are some large tombstones and three small monumental tablets of the end of the fifteenth and the sixteenth centuries carved in white stone, all of much interest, as also the wood panelling of the walls.

The church, dedicated to St. Ursmer, patron and native of the diocese, though unpretentious externally, has some features worthy of note, the irregularity of its planning and the inward base-line of the north nave wall to the west being particularly noticeable.

The old church was dedicated to St. Mary and erected in the twelfth century. Of that only the porch and the west gable and the lower part of the tower remain, of the big blue-grey stones of the district. The building was burned down by Henri II. in 1554. Jacques du Brœucq, who was a native of Mons, designed the gables and the vaulting, and, through lack of funds, the work, never completed, lasted half a century.

The most striking interior view is obtained by entering the church by the north door, when one immediately perceives the lofty and very wide choir and the adjacent Blessed Sacrament Chapel.

In the very spacious nave, as in the cemetery chapel, the vaulting ribs are curiously worked, and the bosses are at 60 feet above the floor.

The chapel of St. Ursmer, on the north side of the choir, but actually in the tower, is a charming bit of Romanesque and Gothic work mixed most harmoniously, and the arches are in the blue-grey stone. De Brœucq is the architect of it. The new altar to the saint is by Langerock, and is severely simple, in the Romanesque style, with bas-reliefs representing the baptism and the consecration of St. Ursmer as Bishop, who died in 713.

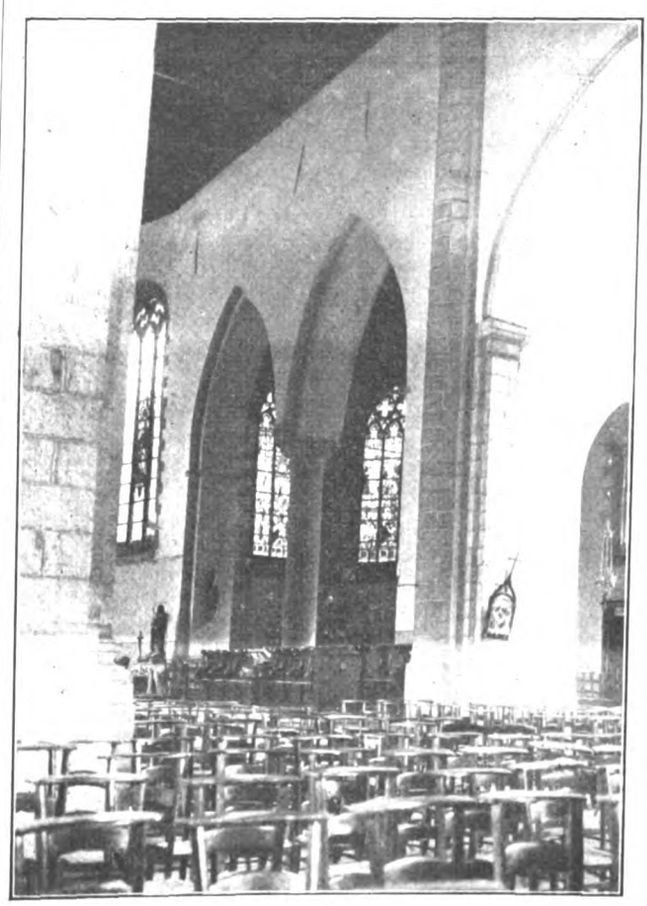
The jubé, or organ loft, is in black and white marble, with four columns of red marble. It is ornamented with two fine alabaster statues.

The Blessed Sacrament Chapel has a statue of St. Ursmer, in oak, of the seventeenth century, the wood being gilt, and with a metallic sheen. There is also a funeral tablet on the wall.

The trésor, though not large, is remarkable. The most precious relic is that of the True Cross. The reliquary and relic were given to Binche on Palm Sunday, 1479, by Margaret of York, widow of Charles the Bold and great-granddaughter of Charles Quint and Mary of Hungary.

As will be seen from the photograph, it is very small—not more than 7 inches high and is of gold that has been fire-enamelled. The top and arms of the cross are ornamented with emeralds, sapphires, and other precious stones. The figures are not more than three inches in height, but they are perfect in execution. The relic is enshrined in the cross. A small crystal medallion contains a fragment of the Crown of Thorns and a small piece of the Tomb of the Redeemer.

The relic of St. Peter, of the thirteenth century, is contained in a wrought-silver reliquary in the shape of an



BLESSED SACRAMENT CHAPEL SHOWING ST. URSMER'S STATUE ON THE ARCH.

arm, with filigree work and crystals. The relic consists in a large piece of the leg-bone, and was given to St. Ursmer at the end of the seventh century by Pope Sergius when he consecrated the saint as missionary Bishop. Out of respect for this relic of the Prince of the Apostles it was expressly forbidden to bury anybody in the enclosure of

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Lobbes Abbey, to which monastery it was entrusted, and which kept it till the French Revolution.

Another arm-reliquary, also of silver, but a little later in date, has, according to the inscription at the base, a large relic of St. James, and lesser ones of SS. Thomas, Denis, and Adrian.

The trésor also includes a complete set of vestments (with copes) given at the beginning of the seventeenth century by Albert and Isabella. The embroidery is in gold, of superior workmanship, and they were made to the order of Isabella, for Binche, by Austrian Court ladies. The chasuble, seen in the illustration, is the best preserved. The medallions show scenes of the Passion. On the cross at the back Calvary is represented, and on the front are the Resurrection and the appearing of the Risen Christ to the Holy Women. These vestments, which are of great weight, are worn twice a year—on Corpus Christi Sunday and on St. Ursmer's Day. A statuette of Our Lady, of the seventeenth century, with the Divine Infant, is of boxwood, and of fine workmanship.

To return to temporal matters, the Council, during the last thirty years, have, after being continually in the throes of unbusinesslike financial management, involving annual deficits, muddled accounts presented months overdue, inability to pay its workers and even to undertake necessary public works, found a master-mind to keep things going, accounts promptly and punctually paid, and so forth, without increasing the rates and taxes, and have, by a splendid stroke of business at a favourable time on the Bourse, made a profit of 200,000 francs.

The only two taxes at Binche beyond the Government's 25 centimes of "additionnels," are the dog tax and the one on cafés chantants, piano-organs, &c. This last was only made for the protection of public morals not to swell the resources of the Commune.

So well are things now managed that the State has granted many millions of francs for public works in, and light railways serving, the district of Binche.

A word should be put in, before we close, to call attention to the celebrated and quaint costume-carnival—specially referred to in Baedeker's "Belgium"—for which special trains at reduced rates are run, a doubled grant made by the Council for prizes, illuminations supplied gratis by a Councillor, and 500 francs subscribed annually among the Communal Councillors for the last twenty years or more in their unofficial capacity.



ARM RELIQUARIES.

In the time of the financial chaos public amusements were "paid for" on credit—by a loan for sixty-six years from 1884. These will not be entirely paid off till 1950. Now "nous avons changé tout cela."



ST. URSMER'S STATUE—SEVENTEENTH CENTURY.

It is clear that a town which can show such a record of improvements as can Binche without increasing the rates by a centime is in good hands, and even the Commission Royale des Monuments has honoured the local authorities with its approval and encouragement. They are acting up to the motto of Charles Quint, who gave them their civic dignity—"Plus oultre."

Of course the cheapest and quickest way to Binche is viâ Ostend, by the Belgian State Railway turbine boats from Dover, and from the Belgian port to Brussels, Soignies, and viâ Rœulx and Haine St. Pierre to the go-ahead little town a visit which would never be regretted.

At present, however, it is out of the question to make the trip, but it is to be hoped things will soon be normal again.

RELIEF WORKS.

A CIRCULAR letter has been addressed by the Secretary of the Local Government Board to the Chairmen of County Councils, Mayors, and Chairmen of Urban District Councils which to some extent concerns the building trade, in which he says:

The Cabinet Committee on the Prevention and Relief of Distress have had under consideration questions relating to the organisation of the work and the procedure of the local Committee, and I am directed to acquaint you with their views in regard to these matters.

The primary duty of the Committee will be to survey the existing conditions of employment in the locality, and to consider what measures might be adopted with a view to preventing distress through lack of employment and alleviating such distress should it unhappily occur.

It is in the highest degree desirable that employers should do all in their power to avert the sudden closing of works, and also that temporary appointments should be made to fill all vacancies caused by the mobilisation of His Majesty's forces.

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The Committee, including as it will representatives of local authorities, public bodies, and philanthropic agencies, will comprise amongst its members persons who are intimately acquainted with local industrial conditions, as well as those who have experience in matters such as those with which the Committee will be called upon to deal. It will thus be well equipped for forming an accurate estimate of the situation and for concerting measures for the prevention and mitigation of distress. If any of the local industries show signs of failing the Committee should at once inform the Local Government Board, who will bring the matter before the Cabinet Committee.

In the event of distress becoming acute, the Committee will be responsible for the co-ordination of all relief agencies in the locality, whether official or voluntary, as well as for the distribution of grants made from the National Fund. For this purpose it will be necessary that the Committee should have a register of assistance.

The Board are addressing a communication to the Guardians requesting them to provide the Committee with a list of the persons in receipt of poor relief. If the Distress Committee have opened a register, a copy of this should be made available. The Committee itself should also keep a register of the persons who receive assistance from the National Fund.

It is suggested that the register should be kept on a rough card index system, possibly with reference to areas or streets.

The object of the register is to enable the Committee readily to discriminate between applicants for assistance and to avoid overlapping.

It is not intended that the organisation of the Local Committee should be utilised by persons who have been for a continuous period in receipt of relief, and such persons should be referred back to the Guardians.

With regard to other applicants, it is highly desirable that any relief afforded should take the form of work for wages when it is possible to provide work. In this connection the local authority will, of course, continue to push on all works already in progress, and it is hoped that in many cases they will be able to expedite other schemes of public work and thus absorb a considerable amount of labour. In other cases the Distress Committee in co-operation with the local authority will probably be able to initiate schemes of work by which provision could be made for the more deserving and necessitous cases. Such schemes will be aided by grants made by the Board out of the money provided by Parliament for the purposes of the Unemployed Workmen Act. In areas where there are no distress committees similar schemes of work can, it is hoped, be devised which can also be aided by the Local Government Board out of public funds.

The Local Education Authority will have received from the Board of Education a circular with respect to the exercise of the powers for the feeding of school children conferred by the Act which has just been passed by Parliament, and the Committee will, of course, take this into consideration.

The National Fund will be available for, and generally speaking should be restricted to, those cases which for various reasons cannot be dealt with by any of the methods of assistance above indicated. It may be mentioned that the work of the National Relief Fund will be closely co-ordinated with that of the Cabinet Committee.

The Board have no doubt that the Clerk to the Local Authority would be willing to give the Committee the benefit of his experience and advice, and, if so desired, to place his staff at their disposal. They direct me to add that they understand that many offers of help have been made by various persons and organisations, including women's associations, and the Committee will probably desire to avail themselves of such assistance if necessary.

THE MORATORIUM.

There have been two proclamations within the past few days which may be said, roughly, to suspend the payment of debts between individuals in these islands until September 4. But though both documents cover commercial transactions, there are several important exceptions which it is necessary for the public to bear in mind.

The moratorium—that is, a Government authorisation for the delay in payments—came into operation on August 4, extending for one month to September 4; but it related solely to bills of exchange accepted before August 4. If these bills are re-accepted they are, under the proclamation, not due till one calendar month after the date of the original maturity. That is, if a bill due on August 31 is re-accepted, under the proclamation its date is extended to September 30, with the addition of interest at the official rate current at the date of re-acceptance. But it is necessary to observe that the bill must be re-accepted, neglect of this condition leaving the bill open to be paid or protested.

The first proclamation is a partial moratorium, and is primarily of interest to the City and business men. The extended moratorium covered by the second proclamation affects a large number of persons. Broadly, the moratorium refers to all contracts entered into before August 4. Settlement of accounts contracted before August 4, therefore, cannot be enforced until September 4, or later, if the period of the moratorium is extended, provided always the debt exceeds £5. Small debts can still be collected up to that figure.

Important Exceptions.

There are some important exceptions. It is obligatory to pay

Wages or salaries.
Rates.
Taxes, and
Liabilities under the Workmen's Compensation Acts.

Approved Societies will require to pay claims arising under the National Insurance Act.

Old-age pensions will be paid. There is no suspension of payments of maritime freights.

Interest or dividends payable on securities in which trustees are, under Section 1 of the Trustees Act, authorised to invest must be forthcoming.

And, of course, banks are liable in respect of bank notes, while Government departments are in no way affected by the proclamation.

Despite the numerous exceptions, the relief afforded to the community by this legal suspension of payments is very considerable.

Need for Prompt Payments.

But it cannot be pointed out too strongly or too often that it is an act of patriotism as vital in its own way as helping our forces in the field to pay debts promptly. Tradesmen and others can only keep going if the public pay readily. Those who have money, and refrain from meeting their obligations, are enemies to the community. Commonsense should alone make it clear that no advantage is gained by piling up liabilities till the moratorium has expired.

Debt contracted since August 4, it may not be superfluous to remark, is not, of course, protected by the proclamations.

The Stock Exchange has issued a notice to the effect that where brokers have requested payment, and payment has been refused, interest will be charged at the rate of 6 per cent. per annum. But there is no liability for interest unless there is a specific demand for payment.—*Daily Telegraph.*

THE SANITARY SIDE OF TOWN PLANNING.*

By Alfred J. Price, A.M.Inst.C.E. (Member).

Town planning is now generally admitted to be necessary, and a wise policy, for even the smallest district to prevent them from becoming slums in the future.

Every Town Council should be compelled to prepare a town plan for their district, on which should be laid out the main arterial roads, the various areas reserved for civic, commercial, industrial, and residential purposes, with the number of houses allowed on the different residential areas, widths of the main and secondary roads, and the sites to be reserved for parks, open spaces, and recreation grounds.

The water supply and sewerage systems, with the positions of the waterworks and pipes for distribution, and the sewers, outfall and sewage-disposal works, should have their main lines and positions settled with due regard to future requirements, and the safeguarding of the health of the inhabitants of the district. The method of sewering, whether separate, combined, or partially separate systems, and the dealing with surface and storm water, should also be determined. The lines and contours of streets influence

* Abstract of Paper read at the Royal Sanitary Institute Congress at Blackpool, July 1914.

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the lines, sizes, and gradients of the sewers, and vice versâ. If a comprehensive plan had been prepared of the whole district some towns, which have now to pump the sewage, might have effected a considerable saving by adopting a gravitation scheme.

The general lay-out of a town calls for careful judgment in locating the various portions for civic, commercial, industrial, and residential purposes. All factories should be confined to one quarter, and situated so that the prevailing winds blow the smoke away from the residential and commercial areas. Factory workers desire to live near their work, and a number of cottages should be built near the factories, although with the introduction of cheap tram fares there is a growing tendency for workers to live somewhat further away from the factories, in areas where land and cottages are cheaper and the atmosphere purer.

The present costly, tedious, and insanitary methods of scavenging by the social wreckage of our large towns should be superseded by the motor-driven sweeping and watering machine with its automatic collecting tank.

The house-to-house collection of refuse, with its untidy and unsightly littering of streets, should be superseded by a more sanitary, convenient, and efficient method—viz., a pneumatic system of collection, by which the refuse emptied into a hopper at each house would be drawn through pipes by vacuum pumps, or blown through by air compressors to a refuse destructor, where it would be fed without handling into the furnaces, thus providing part of the power required to work the pumps or compressors, and saving a large amount of money spent on manual and team labour.

The nuisance caused by frequent opening of streets for repairing sewers, and gas, water, and other pipes, should be avoided by the provision of subways to accommodate all underground pipes and cables.

Streets should be made wide enough for future requirements, be direct, and have easy gradients, and while main arterial roads should be made wider than at present, residential streets may be made narrower so long as the distance between the houses is not less than 50 or 60 feet.

Variable construction of road-making should be adopted for the different classes of streets instead of the one general by-law method. Wide radial and ring roads give convenient access from the outskirts to the centre and act as lungs. The streets should be planted with trees as far as possible, so as to relieve the monotonous and depressing appearance of streets.

The provision of suitable and sanitary cottages at a reasonable rent is a pressing need in both urban and rural districts.

The provision of open spaces, around which should be built the chief civic buildings of the district, of public parks overlooked by hospitals or sanatoria, and of recreation grounds near the schools and in the industrial and residential areas is essential for the health of the people, and should form one of the chief features of every town plan. Open-air and covered swimming baths, football and cricket grounds, tennis-courts, bowling-greens, and gymnasia should also be provided

The Chairman proposed a vote of thanks to the author, and congratulated the Institute on having a young member coming forward with a paper of value.

Mr. Mawbey (Leicester) seconded the motion, and mentioned that the author was the son of Mr. Price, of Lytham. He said that some people considered there was great difficulty in commencing a scheme of town planning, but the first step was really very simple. The question of arterial roads had been mentioned, and there was no doubt the vital element was that of finance. The late Mr. Alderman Thompson a few days before his death pointed out that unless local authorities were prepared to relax their by-laws to give facilities for town planning they would not get on as they should. If they wanted these wide roads they would have to give something to the landowner, and if they did contribute to the cost they would get it back in the way of health in the district. Scavenging had been mentioned, and he had recently seen a motor sweeping machine in London: there was one at work in Blackpool, which delegates could see.

Mr. Munce (Belfast) said he agreed with a good deal, but not with everything the author had said. He believed that every local authority should be compelled to prepare a scheme of town planning, and there should be a penalty for those who did not do so. But when a scheme had been prepared there should be some way of altering it if experience showed the necessity for doing so. What might seem all right to-day might be all wrong in a few years' time, and he himself knew a road in Belfast which had had to be widened three times. He did not agree with all the factories being put in one place, and in Belfast it certainly would not do to put the linen factories alongside the foundries and the shipbuilding yards. In his town the factories were spread all over the town, and the Corporation allowed workers to travel the return journey on the tramways from anywhere for 2*d*. He could not understand the sentence that scavenging was done by the social wreckage. In Belfast a scavenger was better paid than an ordinary labourer, and did the work well, and there was no reason why scavenging should make the streets dirty. He did not agree with the author on the question of subways. Ninety-five per cent. of the openings in their streets were not for pipes which would be laid in subways, but were for pipes connecting to houses, and they could not have a subway to every house. As to the height of buildings in Belfast, no building could be higher than the width of the streets without the consent of the Corporation. He thought at present there was too much building into the ground, and they did not want so many basements and cellars.

Mr. Willis (Chiswick) considered that where a road was essentially an arterial road a great deal or the whole of the cost should be borne by the State. He also agreed with Mr. Munce that factories should be scattered except in regard to trades which were of an offensive nature. They would not, for instance, put a gas works in the middle of £100 a year property. With factories where electricity was the motive power the case was different. In all town-planning schemes there should be a provision that the elevations of buildings should be submitted to the local authority for their approval.

Mr. Race (Barrow) pointed out that owing to the foresight shown in the development of that town they had little need for town planning, and they had many of the powers which had been suggested, including jurisdiction over the elevations of the houses in many thoroughfares.

Mr. Measham Lee (Karachi, India) remarked that such papers as they had heard were of extreme interest to those who were trying to carry out their work on sanitary lines overseas. Many of the older parts of their Indian cities were very crowded, and he had some four or five square miles in which they had laid down what they called an alignment line, to which houses rebuilt had to be set back. Some few years ago they had a district of 700 or 800 acres being developed for building purposes, and, spurred on by the work being done in England, he prepared a plan showing how the whole of the arterial roads in the district should be laid down, and at present that scheme was being carried out on the lines of the Act they had in England. In that case it was Government land, and they had to fight the Government. In his district the local authority owned seventy-two out of seventy-five square miles, but even in such a case the problem of providing amenities was real and vital.

Mr. Stubbs (Blackburn) said there seemed to be a sort of general idea that the better-class dwellings should be put in one district, the working classes in another, and the mills in another. Coming from a cotton-manufacturing town, he thought that was a mistake. Seeing how electricity was coming into general use as the motive power, he saw no reason why houses for the working classes should not be erected in close proximity to the mills.

Mr. Price, in reply, said he quite agreed that they could not expect the landowner to give a small number of houses to the acre unless they cheapened development by allowing cheaper roads. With regard to Mr. Munce's point as to alterations in a town-planning scheme, he suggested that a scheme should remain in force for a certain number of years, and then come up for amendment if necessary. Whilst he was pleased to see Belfast set an example for scavenging, yet they did as a rule find a lot of old men doing the work. When he referred to subways he meant that they should be constructed in the main shopping thoroughfares where there was a lot of traffic. He took it that the reason for building basements in a great many cases was that the builder had to go down a long way for a good foundation. In regard to the situation of factories, his view was those of a more offensive character should be placed together. On a recent visit to Rouen he saw they had planted the gas works on an island, and it was so surrounded by trees that one had to go up a hill to see it.

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PAINTERS AND DECORATORS AT MANCHESTER.

We desire to call attention to the forthcoming Exhibition and Convention of the National Association of Master House Painters and Decorators of England and Wales, Incorporated, to be held in Manchester in September next, which promises to be of exceptional importance. The Association has secured the City Exhibition Hall, Liverpool Road, for the purposes of an Exhibition of Decorative Art and Manufactures.

An important and interesting feature this year will be the Special Exhibition of Painters' Class Work, to which the large gallery of the Hall will be exclusively devoted.

Lord Emmott, his Majesty's Under Secretary of State for the Colonies, has consented to open the Exhibition on September 18, and the Lord Mayor of Manchester has promised to preside on the occasion.

The Exhibition will remain open the whole of the following week, and close on Saturday evening, September 26.

The Exhibition will be closed to the public on Monday evening, the 21st, when the President and Mrs. Higson hold a reception, private to the members and friends.

The funds derived from the Exhibition are devoted to educational work amongst the young men engaged in the painting and decorating trade, and the Association, during its twenty years' existence, has spent upwards of £3,000 in furthering this work.

Many students have been sent to Italy to study the decorative work of the best masters, and many men occupying honourable positions in the trade to-day owe their first start to the stimulus of the Association.

UNIVERSITY COLLEGE SUMMER SCHOOL OF TOWN PLANNING.

The University of London has inaugurated the study of town planning by holding a summer school at the new School of Architecture at University College. The newly appointed professor of town planning, Mr. S. D. Adshead, M.A., F.R.I.B.A., is giving a short series of lectures, and in addition all the best-known authorities on the subject are contributing to the course. The lecturers include Mr. Raymond Unwin ("The Practice of Town Planning"), Mr. Patrick Abercrombie ("Town Planning in the Past and Abroad"), Mr. Edmund R. Abbott ("Legal Aspects of the Subject"), Mr. G. L. Pepler ("Engineering and Surveying Problems"), Mr. H. V. Lanchester ("Tradition and City Development"), Mr. Thomas H. Mawson ("Public Parks and Gardens"), and Mr. John Nolen ("Town Planning in America").

The shadow of the great war has hung heavy over the course and a number of visitors from America and the Continent were forced to withdraw at the last moment. Dr. Brinckmann, Professor at Carlsruhe, who was to lecture on German town planning, was unable to attend, and several of the students who are members of the Territorial Force were called up on the second or third day of the session. About forty members have still been able to follow the course throughout, however.

A reception was held at University College on Monday, 2nd inst., when the members and friends were received by the Provost of the College (Dr. T. Gregory Foster), Mr. Raymond Unwin (Chairman of Committee), Mr. Herbert Samuel (President of the Summer School) being unfortunately prevented from attending by the European crisis. In his absence the address was delivered by Mr. Raymond Unwin. They little thought, he said, when they planned that gathering that it would be held at the beginning of an upheaval which may bring European civilisation down in ruins and can hardly fail to affect its development profoundly. It seemed that after so much progress the peoples of the world were still full of helplessness, as though the organisation of life had not kept pace with the overwhelming growth and complication of mere material development. The nations seemed overwhelmed by a complexity they have not learned to control.

But there was a distinction between the nation as a whole, and the people of which it is made up. Many of them had friends in other countries and had been hopeful of a combination of effort between the peoples of different parts of Europe in the service of a joint forwarding of social and civic amenities, and they could not help being saddened by this abrupt downfall of their hopes.

Mr. Unwin spoke of the growth of town planning as a subject of University teaching, especially with reference to the recent appointment of Professor Adshead as Professor of Town Planning in the University of London. The Summer School now being held in the University was started two years ago at Hampstead Garden Suburb from a suggestion of Mr. J. S. Rathbone, who had from the beginning acted as honorary secretary and borne the brunt of the organising work. The University, in securing the services of Mr. Adshead as Professor of Town Planning, had been fortunate in having the advantage of Professor Adshead's experience in organising the first school of town planning at Liverpool. Professor Adshead brought to his new duties a highly trained architectural mind, and one open to new ideas. He had had the honour of being appointed by the King to replan and rebuild his and the Prince of Wales's property in South London, and added to his professional skill the charm of an engaging personality.

The principles of social life which town planning should express were two, said Mr. Unwin the power of associated work and the pleasure of associated life. The complexity of modern civilised life was not perhaps a gain to the planner of towns, who ought rather to lift himself above the multifariousness of to-day and see if it is not possible to build cities which shall express a more wholesome simplicity of human relationship. Mr. Unwin gave an eloquent and vivid picture of the more primitive conditions of life in ancient Athens, in which, although the majority of men were no better off than our agricultural labourers, a pitch of perfection in art was reached which has never been surpassed in these later days. A similar instance was quoted by Mr. Unwin in Rothenburg, an old walled town in which the population has never reached more than nine thousand, and which has always been dependent upon the common life of its farmer population for its art and development, and which stands to-day as a model of a town perfectly adapted to its needs and clothed in all the dignity and simplicity of a native art.

Dr. Gregory Foster, Provost of University College, welcomed the members to the new buildings of the School of Architecture, and stated that with the autumn a complete course in town planning and municipal engineering would be established. A telegram from the President of the Local Government Board was read, in which good wishes for the success of the school and of the town planning movement were expressed.

Mr. Thomas H. Mawson, in the course of a lecture on "Parks and Gardens," said that at the present time, when every mind is obsessed with this terrible war, and hardships must fall on the working classes of this country, the subject of his lecture was most opportune. Of the different classes of work for the relief of distress none could compare with the construction of public parks and gardens. Such work seems to come naturally to every Britisher who is by nature a garden lover, and because of this fact always prepared to give in return adequate recompense and work for any wages he may receive. And he would say, after an experience he thought unique, that even men who have been brought up in offices and in the lighter trades, when once seasoned to the work, proved themselves excellent and very often intelligent workmen. At this time and for purposes of relief land could probably be obtained at the lowest possible price, and would probably in many cases be presented by generous landowners to secure occupation for deserving men.

Mr. Thomas Adams, who has been the head of the Town Planning Department of the Local Government Board since its establishment, has signified his intention to retire on October 1. He will be succeeded by Mr. G. L. Pepler, who was recently appointed as part-time assistant in the department. Mr. Pepler is the hon. secretary of the Town Planning Institute, which was established a few months ago. Mr. Adams leaves his work for a position in Canada.

H.M. the Queen and Princess Christian, having been offered a fully equipped Base Hospital, have accepted this patriotic and generous gift, and given it to the Navy for the reception of sick and wounded naval officers and men. The hospital will be erected at South Queensferry, in Scotland. Mr. Alfred Mosely, C.M.G., has been entrusted with the carrying out of the project, and it may be remembered that he served in a similar capacity with the Princess Christian Hospital during the Boer War. The erection of the buildings has been undertaken by Messrs. Humphreys, Ltd., under the direction of Mr. Frederick W. Marks, F.R.I.B.A.

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THE DECORATIVE ARTISTS' SKETCH CLUB.

On Wednesday, July 29, the Decorative Artists' Sketch Club held a private view of the pictures exhibited by their members at the Press Section of the Anglo-American Exhibition, Shepherd's Bush.

Mr. Charles Hindley, the President, received the members and their friends. After an inspection of the pictures, which were very favourably criticised, an adjournment was made to the Hall of Peace, which was placed at the disposal of the Society by the intervention of Mr. Stewart Greene, who conducted the party to the hall, where a most pleasant hour was spent in comfortable surroundings discussing the history and future of the Club.

The proceedings were opened by the President, who alluded to the excellent and promising start which had been made by the members; the quality and quantity of the work those who had been present that evening had been able to judge. The President also congratulated the Hanging Committee on the result of their labours which had been carried out in so satisfactory a manner. Not only, he added, were the pictures arranged by the Committee, but they undertook in the very limited time at their disposal the actual labour of fastening each picture in its place.

Mr. Hindley suggested the names of many historic buildings for which permission to view might readily be accorded to the Society.

Mr. Stewart Greene was then asked to address the meeting. He congratulated the Club on the marked success of their first exhibition. He also extended the list of places of interest which would be worth a visit when the proposed Saturday afternoon meetings were organised. The list compiled included Westminster Abbey, St. Paul's Cathedral, Osterley Park, Bridgewater House, Holland House, Stafford House, the City churches, and the Halls of the various City Companies.

Mr. Stewart Greene was followed by Mr. Bertram Puckle, the Hon. Secretary, who agreed that the places of interest mentioned would be well worth the Society's attention, but urged that the fact should not be lost sight of that the first duty of a Sketch Club was to sketch, and that it should be realised that there was a danger of spending the little time which would be at the disposal of the Society for this purpose in antiquarian pursuits. The speaker suggested Hampton Court as an ideal place for a meet of the Sketch Club as it offered so large a choice for a variety of tastes and efforts. Speaking of the exhibition of pictures Mr. Puckle explained that the selection of the White City for the purpose had been a matter of means rather than choice, and mentioned that the Society was indebted to the proprietors of the White City for allotting to them free of cost space in the Press Section. The regular picture galleries had been found to be too expensive and had also been booked so far in advance as to render them useless for the purpose of the Sketch Club.

Mr. Puckle urged the further development of the Club's activity now that the first effort had brought the members together. A winter session would be arranged and he hoped that the programme would admit of regular weekly meetings for the purpose of drawing from the life. The one thing needful, he pointed out, was a suitable room for the purposes of such a meeting which would also form a centre to work from. Mr. Charles Hindley had generously placed at the disposal of the Society accommodation in Welbeck Street, but helpful as that had been it would not, of course, answer the larger purposes in view.

Replying to Mr. Puckle's remarks, Mr. Stewart Greene very generously offered a suitable studio for one night in each week in a central and accessible position, a proposition which was accepted with the heartiest applause.

Mr. Walter Gandy, Mr. Warne, and other gentlemen spoke in favour of a figure and costume class. Votes of thanks were proposed and carried to the President, Mr. Charles Hindley, Mr. Stewart Greene, Mr. Bertram Puckle, and the Hanging Committee. The proceedings then terminated and the members dispersed to spend the remainder of the evening amongst the various attractions which the White City afforded.

The trustees of the Whitechapel Art Gallery have appointed Mr. H. Samuel Teed to the post of art director, in succession to Mr. Gilbert A. Ramsay, who has accepted the office of superintendent of the Glasgow Municipal Art Galleries and Museums.

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. Francis Bumpus.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

THE RENAISSANCE.

The Cinque-Cento or Renaissance style or phase of architecture has, and deserves to have, great interest for us. It is perhaps the most plastic style on which modern architecture can be based. It has not the grandeur of the Egyptian, nor of the Greek, nor has anything been achieved in this style which can compare in dignity with the Romanesque or the earlier Pointed—in this term including the best specimens of our Norman—and the Romanesque may be called even more solemn than the thirteenth century Gothic.

It must be granted, however, that the Renaissance, properly so called, has been used (that is, fundamentally) in so few of the more important churches of Europe that its capabilities have never been brought out. Still, we are justified in thinking of it rather as suitable to civil, palatial, and domestic purposes than to ecclesiastical.

In speaking thus of the Renaissance, such churches as St. Peter's at Rome and our own St. Paul's, built on the fully developed revived Classical idea, must be excluded from this category.

In this place it can neither be affirmed nor denied that these may compare with those of any other style; but such structures as Ste Eustache at Paris, the chapels round the apse of St. Pierre at Caen, and the façades of the Certosa at Pavia, San Bernardino at Perugia, and San Zaccaria at Venice compare very favourably with the later Gothic, but not with the earlier.

The arts which took so deep a root in Greece were exotic among the Romans, but they were fashionable, and were patronised by the great. There were, however, other races in Italy, of Greek or Etruscan origin, with whom they flourished naturally, and amongst their descendants they ultimately revived.

Wherever Classical antiquities had left important traces, the mediæval architecture and sculpture was deeply influenced. For instance, in the centre and south of France, at Autun, Langres, and Beaune; at Arles, Orange, and Tarascon, and in some other districts also, details of Romanesque work are to be met with which it requires some discrimination to distinguish from Classical work. Nor is this surprising. Even the northern architects thought they were following out and reproducing the forms of Classical architecture, and we owe *much*, if not most, of the originality shown in their works to this difficulty of access to the ancient models.

This separation of the northern artists from the ancient models, however favourable it may have been to the development of a new style of architecture, was not advantageous to that of the sculptor of the period, and it was from Italy that the influence came which, although for a very limited period, brought up mediæval sculpture to a very high state of excellence.

It is generally agreed upon among writers on Italian art that the great precursor of the Renaissance, as exemplified in sculpture and painting, was the celebrated Nicola Pisano, who flourished during the middle of the thirteenth century. He first established the principle that the study of nature, corrected by the ideal of the antique and animated by the spirit of Christianity, can lead to excellence of art.

The proportion in which those elements were combined varied among artists according to the idiosyncrasy of each, some seeking most eagerly after nature and others after the antique, and a few, like Angelico, after spiritual expression; but in the best works of the Renaissance they are found mingled.

According to Vasari, the bas-relief now in the Campo Santo at Pisa, which is commonly supposed to represent in its two compartments the story of Phædra and Hippolytus, suggested to Pisano the possibility of excelling the crude, lifeless, and conventional forms wrought by the Tuscan stone-carvers he employed. Messrs. Crowe and Cavalcaselle do not accept this tradition, but while there exists so much resemblance between some of Nicola's figures on the pulpit of the Pisan Baptistery and those on the sarcophagus, their scepticism is not likely to prevail.

These pseudo-Classicisms now came under elevatory influences. Nicola's son, Giovanni, as may be seen in the pulpit at Sant' Andrea, Pistoja, had more of the northern spirit than his father, and his works have an earnestness

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of expression, a picturesqueness, and an air of reality that show a study of models more true to nature than those of a debased period of the antique. His most distinguished pupil was Andrea Pisano da Pontaderra, the sculptor of the great north and east bronze gates to the Baptistery at Florence. He travelled, and thus acquired some of the traditions of Byzantine metal-working.

So animated are the panels of these gates that it is easy to understand why men believed them to have been designed by a painter. Vasari says, by Giotto, who was a friend of Andrea's. Thus early, as attempting to enlarge the province of sculpture, it became subordinate to painting. The distinction between the two branches of art was ever afterwards overlooked. What was adapted to one was held to be no less fit for the other, and the subjects which might have appeared to advantage in fresco or on canvas were reproduced in marble or bronze.

In course of time this led to the flying drapery of Bernini and his followers, and, until within comparatively recent years, one could see in the veiled figures and in the representations of textures and other materials by Italians proofs of how hard it is in art to return to a right course when once men forsake it.

To the famous Nicola Pisano then the credit may be assigned of that reform which, beginning with his works, about 1225, extended gradually to Rheims, Westminster, Lincoln, and Naumburg.

The impulse was, however, soon lost in Northern Europe, and the sculpture of England and Germany degenerated much more than did the architecture; more, at any rate, than the English Perpendicular. Whilst the Italians, by the hands of Masaccio, were executing those wonderful works, almost Greek in their dignity, the Royal Tombs at Naples, and whilst Giotto, born in 1276, laid the foundation of the great Italian school of painting, himself among the greatest, these arts in the north of Europe were in a very low condition.

This Italian search after excellence in sculpture and painting was accompanied by an extraordinary desire to recover the lost or buried treasures of antiquity, and Dante, born in 1265; Boccaccio, in 1313; and Petrarch, in 1327, were among the most influential and the most laborious in bringing the lost treasures of learning again to the knowledge of their countrymen, and, through them, gradually to the rest of Europe.

Florence, the birthplace of Dante, led the way in the pursuit of the revived knowledge of classical antiquity, and this revival in the direction of the arts was taken up and advanced almost to its maturity by Brunelleschi, born in 1377, and who therefore was a boy of nine years when William of Wykeham completed New College, Oxford, and was engaged in transmuting the Norman nave of Winchester Cathedral into Perpendicular; by Donatello, born in 1383; by Ghiberti, contemporary with the last, and the sculptor of one of the beautiful pair of doors of the Baptistery at Florence; by Luca della Robbia, and by Alberti, whose designs at Rimini and Mantua have rarely been surpassed, and whose book, *De Re Ædificatoriâ*, produced a great effect.

These were followed up by Bramante, born in 1444, who groups naturally with those previously mentioned as the authors of the Italian Revival of the fifteenth century, not yet the Cinque-Cento or sixteenth century, which opens with the maturity of Sangallo, Michel Angelo, Sansovino, Peruzzi, Raphael, and San Michele.

The list of the earlier stages of Renaissance architects and architectural artists of Italy may be allowed to close with Benvenuto Cellini, Vignola, and Serlio, who first saw the light in 1510.

Florence then led the way with Brunelleschi; Rome followed much later with important buildings, especially the Cancellaria, by Bramante; Verona and Venice were also much behind Florence—the church of the Madonna dei Miracoli (1480) being about the earliest building in the new style, and that only partially developed; Genoa still later, with the works of Galeazzo Alessi, born in 1500. In Milan, the Ospedale Grande, begun in 1456, by Filareti, a Florentine, is a noble transitional building, which shows the influence of Brunelleschi so far as it is of the Renaissance character.

Thus we have seen that in Italy the general revival of Classical architecture began in Florence, and with Brunelleschi in his first work, the church of San Lorenzo, which would be about 1421. It was then received in various parts of the north of Italy, as at Rimini, Mantua, and Milan; then by Rome and Venetia, San Michele importing into the Veronese and Venetian examples much that he had gathered from his own studies of antiquity.

Germany followed, and through the influence of Henry VIII.—who invited Torregiano, a Florentine, to put into the new Lady chapel at Westminster the monument to his father, to whom are also ascribed the capitals of some columns in the old parish church of Chelsea for Sir Thomas More, and whose hand is also probably to be found in the magnificent stalls and organ-loft in King's College Chapel, Cambridge—it was received in England some years before it took any hold on France, but it did not take root amongst us as it did in France for some time. In France, Spain, and the Low Countries it was received almost contemporaneously.

(To be continued.)

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Abingdon.—General Hospital: additions (£2,300).
Isolation Hospital: proposed extension.

Hungerford.—Workmen's dwellings (£1,500).

BUCKINGHAMSHIRE.

Beaconsfield.—Church, One Tree Estate, for the Rector and Churchwardens.
House, One Tree Estate, for Mr. W. B. Du Pré.
Two houses, One Tree Estate. Mr. F. Froude, builder, Station Parade.
House, Candlemas Lane. Mr. W. F. Bagley, builder, London End.
Beaconsfield Schools: additions, for the Managers.

CHESHIRE.

Altrincham.—Proposed Council School, Princes Road.

CUMBERLAND.

Stoneraise.—Chapel School-room, &c. Mr. H. H. Hodgkinson, architect, 64 Lowther Street, Carlisle.

DERBYSHIRE.

Derby.—The "St. Helen's" Inn: rebuilding. Mr. A. Eaton, architect, 6 St. James's Street.

DEVON.

Chudleigh.—Council houses (£3,000).

Plymouth.—Y.W.C.A. Hall. Mr. M. A. Bazeley, architect, 21 Princess Square.

DURHAM.

East Hetton. Council School: alterations and extensions (£3,250).

Ebchester.—Block of twelve aged miners' homes, for the Derwent Valley (£2,200).

Emmaville (£1,000), *Ferryhill Station* (£4,300), *Newbottle* (£3,000).—Council Schools: alterations and extensions.

Spennymoor.—Bakery, Low Grange Road: conversion into four houses, for Mr. G. Harrison.
St. Mary's Home, Tudhoe: additions.
Higher Education School (£4,400) and Council School, Tudhoe Colliery (£1,400): alterations and extensions.

ESSEX.

Clacton-on-Sea.—Public Elementary School.

GLOUCESTERSHIRE.

Lydney.—Proposed Senior Council School.

Stroud.—Swimming Baths, &c.: proposed additions (£1,650).

HAMPSHIRE.

Basingstoke.—Proposed workmen's dwellings, Cranbourne Lane.

HERTFORDSHIRE.

Knebworth.—Garden Village Church (350 sittings). Mr. E. L. Lutyens, A.R.A., F.R.I.B.A., architect, 29 Bloomsbury Square, London.

KENT.

Birchington-on-Sea.—Council School: infants' department for 150 places.

Erith.—Public Elementary School, Belvedere (£7,400).

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ENGLAND—*continued.*

KENT—*continued.*

Maidstone.—Two houses, Old Tovil Road, for Mr. W. Bowes.

Nos. 38-40-42 Week Street: alterations, for Boots' Pure Drug Company.

Tenterden.—Council School (£2,900).

LANCASHIRE.

Blackburn.—Fire Station and firemen's dwellings, The Wrangling (£31,600).

Chatburn.—Christ Church Parish Hall. Mr. W. Stirrup, F.R.I.B.A., architect, 7 Brazennose Street, Manchester (and at Blackburn). Messrs. J. Lee & Son, contractors.

Leigh.—School, for the Kirkhall Lane Mission (£3,500).

Little Lever.—Thirty Council houses, Booth Road.

Manchester.—Schools, for the Holy Name R.C. Church, Oxford Street.

LEICESTERSHIRE.

Hugglescote.—Council School.

LINCOLNSHIRE.

Grimsby.—Workhouse: children's receiving home.

Woodhall Spa.—County Sanatorium, Roughton Moor (£8,000).

MIDDLESEX.

Finchley.—Public Elementary School, Summers Lane.

NORFOLK.

Norwich.—Asylum and School for the Indigent Blind, Magdalen Street: proposed extensions (£600).

NORTHAMPTONSHIRE.

Daventry.—Proposed Market, for the Daventry Cattle Market Company, Ltd.

NORTHUMBERLAND.

Haltwhistle.—Seven houses, Flowers Close, for Mr. Banks.

SOMERSET.

Bishop Sutton.—Wesleyan Chapel (£700). Messrs. Flowers (of West Harptree), contractors.

Mells and Vobster.—Proposed sixty houses, for the Mells Colliery Company.

STAFFORDSHIRE.

Cannock.—Thirty-six Council houses, Beech Tree Lane and Belt Road.

Council Schools, Belt Road, High Town.

Hednesford.—Proposed Fire Station.

SURREY.

Farnham.—School of Art: enlargement (£1,500).

Guildford.—"The Dolphin" public-house, Chertsey and North Streets: rebuilding, for the Hodgson Kingston Brewery Company, Ltd.

Sutton.—Church, corner of Forrest and Avenue Roads, Cheam.

Walton-on-Thames.—Public Elementary School (£8,000).

Woking.—Maybury new Council School, Walton Road (£5,200).

SUSSEX.

Brighton.—Public Baths. Borough surveyor.

Eastbourne.—Church: alterations. Sir Aston Webb, K.C.B., R.A., &c., architect, 19 Queen Anne's Gate, London, S.W.

Midhurst.—Twenty-four cottages, Station Road, for Lord Cowdray.

WARWICKSHIRE.

Coventry.—Factory, Mile Lane: extensions, for the Swift Cycle Company, Ltd.

Two houses, Broadway, for Mr. A. J. Taylor.

Six houses and house with shop, Crabmill Lane, for Mr. W. H. Hiorns.

Two houses, Holbrooks Lane. Messrs. H. Goode & Son, builders, Holmsdale Road.

Two houses, Burlington Road, for Mr. A. Jeffs.

Twenty-four houses, Enfield Road, for Messrs. Jervis Brothers.

Six houses, Harefield Road, for Mr. Matthews.

Nine houses and house with shop, Harefield Road, for Messrs. S. & O. Wincott.

Seven houses, Hollies Road. Mr. G. H. Broad, builder, Radford Road.

Fourteen houses, Jesmond Road, for Mr. J. Wharton.

Six houses, Ribble Road, for Mr. Godwin.

Four houses, Wesland Road, for Messrs. Gilgert & Griffin.

The "Coventry Cross" public-house, Cross Cheaping: alterations, for Messrs. Phillips & Marriott, Ltd.

Swimming Baths.

Leamington.—Parish Hall. Mr. E. J. May, F.R.I.B.A., architect, 21 Hart Street, Bloomsbury, London.

WORCESTERSHIRE.

Cow Honeybourne.—Ten cottages (£2,275), for Pebworth R.D.C.

Redditch.—Church Schools: extension. Mr. F. W. B. Yorke, architect, Ivor Road.

YORKSHIRE.

Barnoldswick.—Congregational Church, Gisburn Road.

Elland.—House, garage, &c., Victoria Road. Mr. F. F. Beaumont, architect, Broomfield.

Kippax.—Licensed premises. Messrs. S. Jackson & Son, architects, 11 Tanfield Chambers, Bradford.

Raywell.—Sanatorium (£9,500).

Sheffield.—Shaftesbury Hotel. Mr. H. Webster, architect, St. Marie's Chambers, Norfolk Row.

South Elmsall.—St. Martin's Church, Broad Lane.

WALES.

Conway.—Proposed Council School, Gyffin, for Carnarvonshire Education Committee.

Lambston.—Council School: enlargement, for Pembrokeshire Education Committee.

Llangernyw.—Proposed Village Hall (Sandbach Memorial).

Neath.—Two villas and garage. Messrs. S. Cwm Jones & Arnold, architects, Great Western Chambers.

Rhos.—Fifty-five workmen's houses (£11,000).

Ruabon.—County School: enlargement.

Tumble.—Hall and Institute (£3,000). Messrs. Griffiths & Son, architects, Falcon Chambers, Llanelly.

Vroncysyllte.—P.M. Chapel, schools, &c. (£1,300).

SCOTLAND.

Alves.—Public School: additions. Mr. J. Wittet, architect, 81 High Street, Elgin.

Glasgow.—Buildings, Renfield Street, for Cranston's Tea Rooms, Ltd.

Garage and Show-room, Darnley Street and Maxwell Road, for Mr. J. Fraser (Pollokshields).

Premises, Minto Avenue, Cathcart, for Messrs. Wallace, Scott & Co., Ltd.

Irvine.—Infectious Diseases Hospital, Kilwinning Road and Irvine Moor (£5,000).

IRELAND.

Banbridge.—Dispensary and Medical Officer's house, Moneyslane. Mr. W. W. Larmor, architect.

Green Castle (Co. Down).—Church of Our Lady at Lourdes. Messrs. E. & J. Byrne, architects, 4 Waring Street, Belfast.

Omagh.—Hall, George's Street, for the Irish National Foresters. Mr. T. T. Hamilton, architect.

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

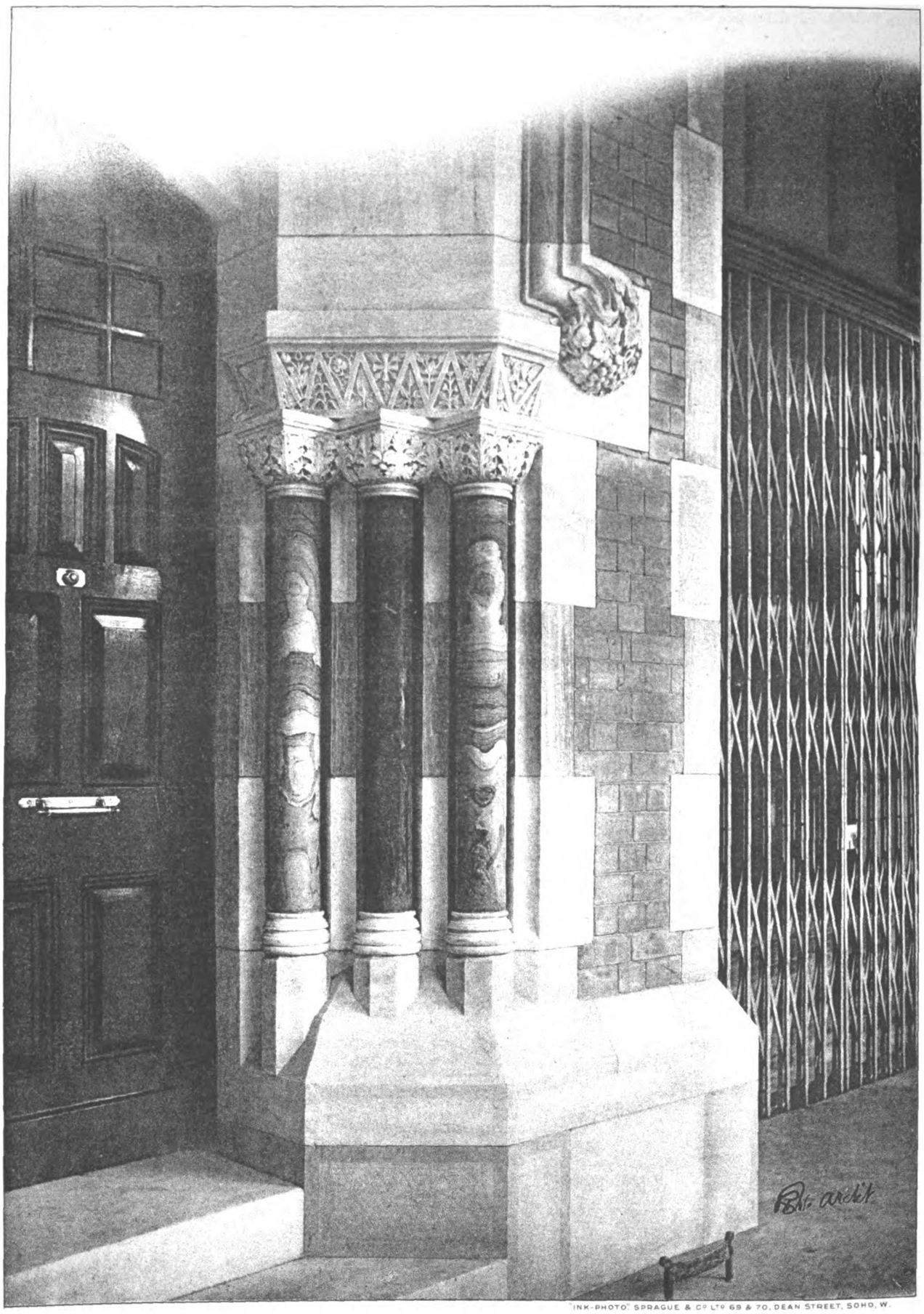
The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 21,497. Sept. 24, 1913.—Windows. B. Smith, Stone Roof House, Widcombe Hill, Bath, Somerset. This invention consists in an improved device for the fitting up, opening and closing of casement windows, of the kind comprising a pair of casements or sashes, hinged together at the usual centre or folding joint. In this invention a steel channel runner is sunk and fixed into the sill and head of the outer framing, and to the outside edges of the casements at top and bottom are screwed purposely prepared steel plates formed with pins fitted with vertical brass rollers made to run in the steel channels at head and sill. A loop handle for opening and closing the window is fixed to one of the centre stiles of casements, and an ordinary sash fastener secures the window when closed. By this arrangement the window can be opened instantly with the slightest pressure at the hinged central joint and slidden back to either side of the opening, thus giving an entire free view, an easy exit in case of fire, window cleaning, painting, and glazing from the inside of room. Referring to the accompanying drawings, Fig. 1 is an elevation, the casement window shown partly open, the two sashes being hinged together at the centre stiles A. Fig. 2 shows a vertical section, B the head, C the sill of outer framing of window, F the channel made

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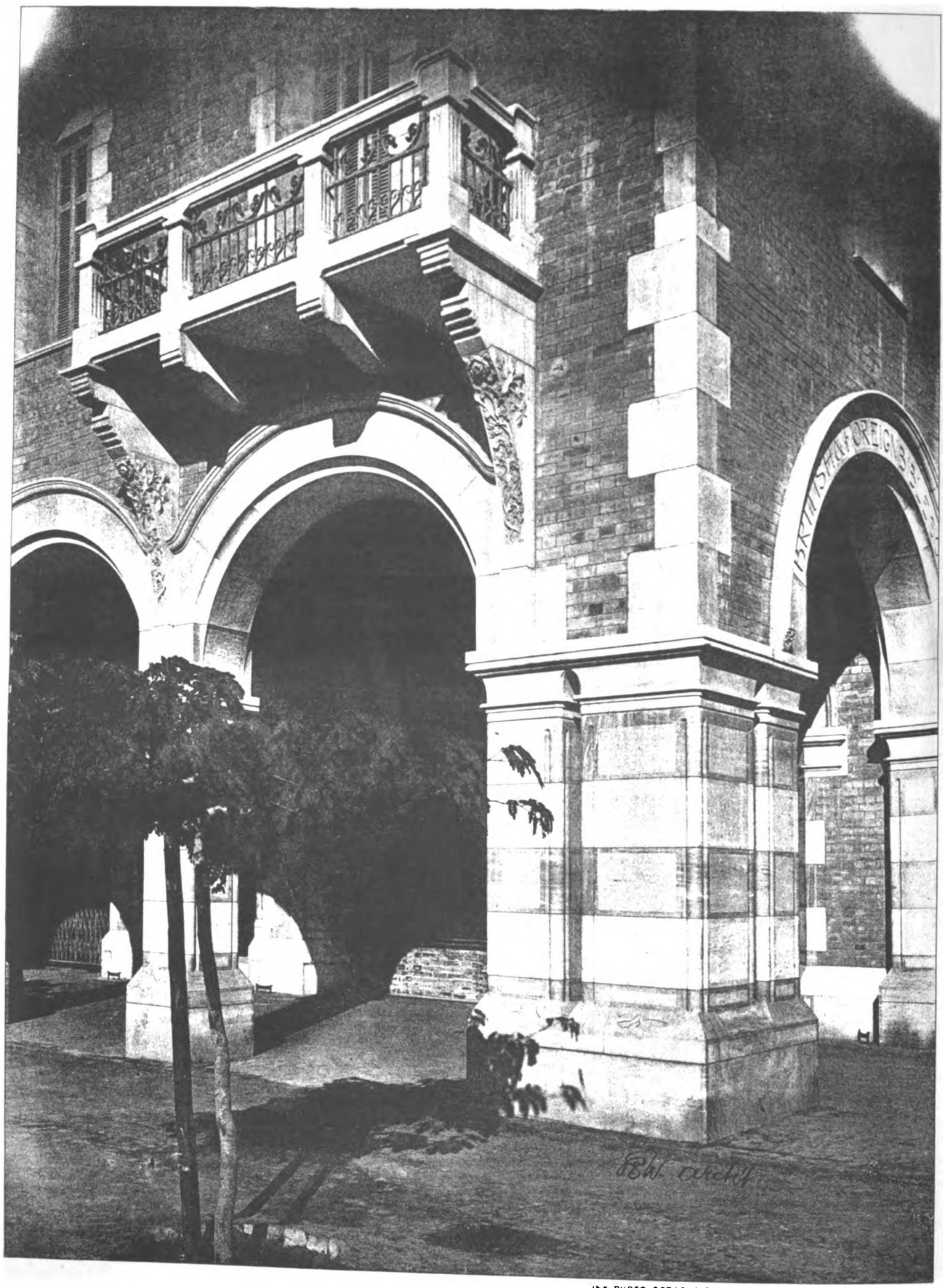
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Mr. ROBERT WILLIAMS, F.R.I.B.A., Architect.

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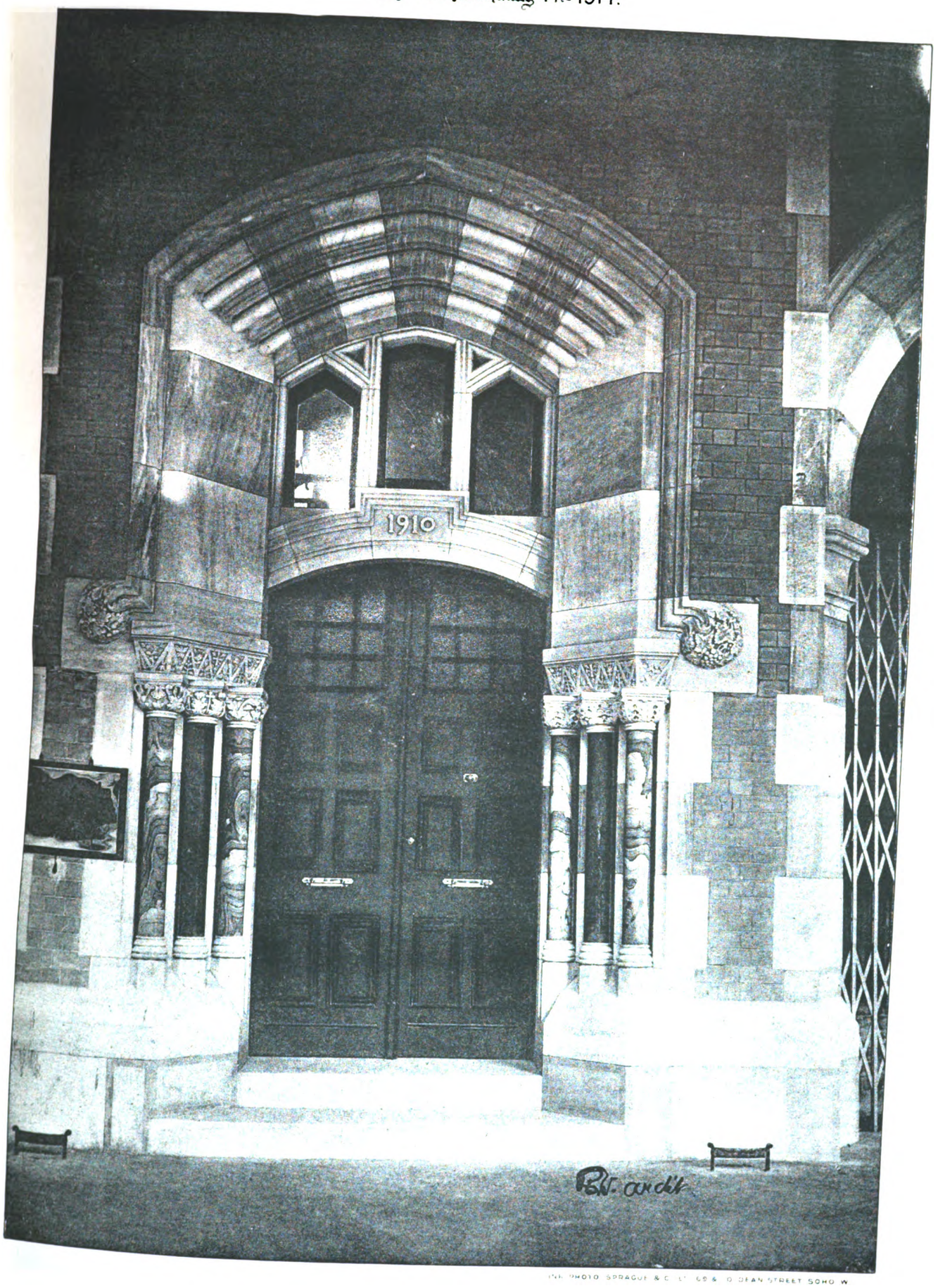


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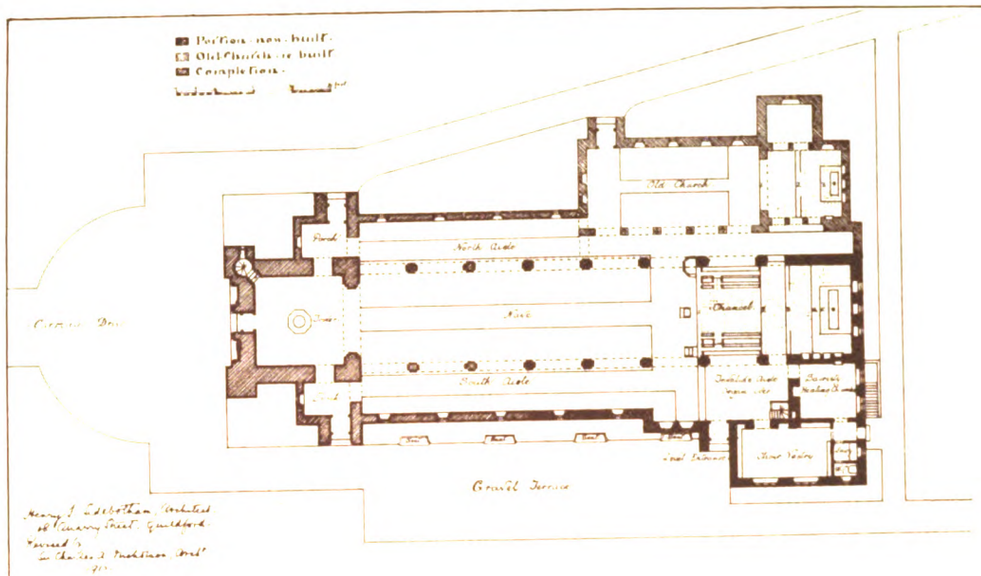
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CHURCH OF ST. THOMAS AT THE BOURNE

Mr. HENRY S. SIDEBOTTOM Architect

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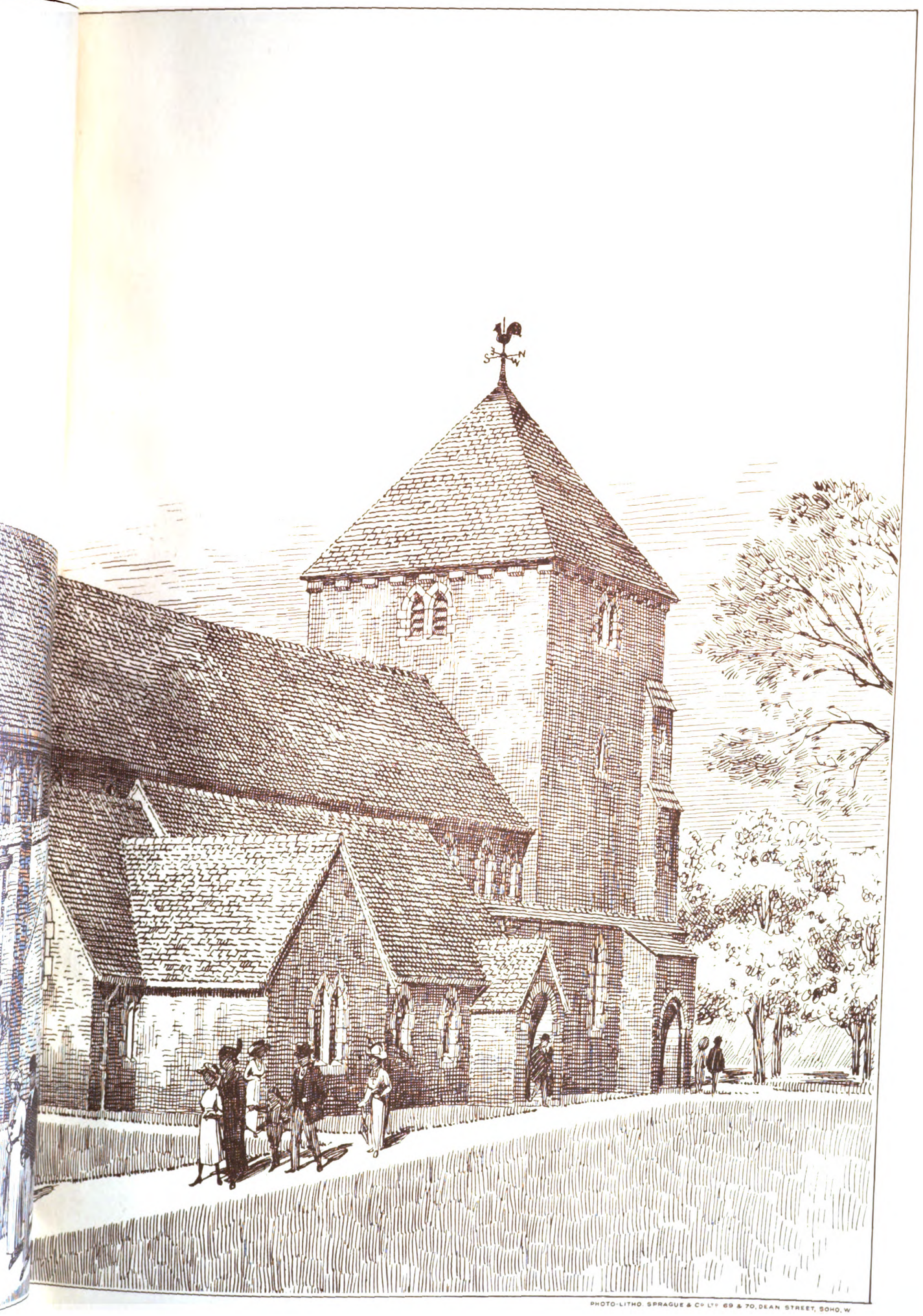


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AS ON THE BOURNE.

OTHAM, Architect.

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of steel or other suitable metal sunk into and screwed to the sill and head. Fig. 3 shows full size section of roller D working in the channel and made of suitable metal, turned

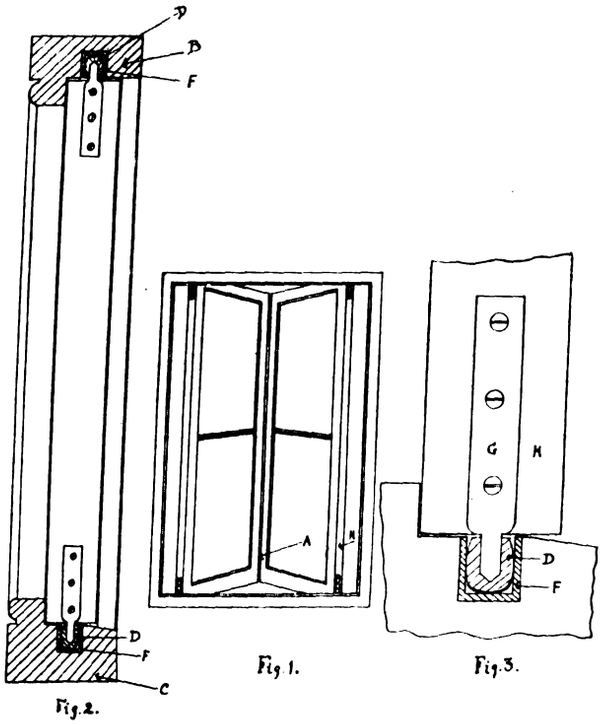


Fig. 1. Fig. 3.

Fig. 2.

slightly barrel shaped and domed at the outer or bearing end. The rollers are fitted to the pins on the steel plates G screwed to the outer stiles H of the casements at the top and bottom. July 1, 1914.

PATENT SPECIFICATIONS PUBLISHED JULY 30, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 12,937. June 4, 1913.—Clayton Mark, Lake Forest, Lake, Ill., U.S.A. Process of making pipe fittings in the form of tees, crosses, elbows, and the like.

22,173. Oct. 2, 1913.—Frederick Crosland, 7 Chepstow Avenue, Liscard, Chester, and Robert Booth, M.I.M.E., 110 Cannon Street, E.C. Kilns or ovens for calcining lime, cement, and other material.

24,300. Oct. 27, 1913.—W. A. Drew, 3 Conduit Street, Westminster, S.W. Interlocking partition blocks.

26,130. Nov. 14, 1913.—Jakob Schroiff, 61 Kaiserstr., Bielefeld, Germany. Reinforcement for concrete beams.

26,356. Nov. 17, 1913.—Dr. T. P. Shaw, 1,022 Dorchester Street W., Montreal. Fire preventing and extinguishing systems.

26,969. Nov. 24, 1913.—Alfred Parry, "Staveley," Sandheys, Waterloo. (Partly communcated by C. E. H. Beaman, Bengal Club, Bengal.) Humidifying the atmosphere of rooms.

27,690. Dec. 2, 1913.—M. J. Adams, Fireclay Works, Scotswood-on-Tyne. Closet seats.

28,391. Dec. 9, 1913.—F. H. Weeks, Akron, Summit, Ohio, U.S.A. Machines for cutting window pockets and the like.

29,186. Dec. 18, 1913.—J. F. Jones and Jones & Campbell, Ltd., Torwood Foundry, Larbert. Domestic firegrates.

3,690. Feb. 12, 1914.—W. S. Sutton, 838 Island Avenue, Rockford, Winnebago, Ill., U.S.A. Pipe joints and service outlet fittings for pneumatic cleaning systems.

4,395. Feb. 20, 1914.—Harry Crowhurst, 49 Lower Green Road, Rusthall, Tunbridge Wells. Covers for the outlets of taps or valves.

5,266. March 2, 1914.—E. F. Jucker, 29 Peter Street, Manchester. Tiling of roofs.

2,153. July 4, 1913.—H. C. Brown, 54 Park Avenue, Brooklyn, New York, U.S.A. Faucets or valves.

6,452. March 13, 1914.—Willy Stegmann, Elsterstrasse 11, Leipzig, Germany. Sawing machines with circular saws.

15,236. July 2, 1913.—Thos. Borres, 28 Sharpe Street, Dewsbury, York. Appliance for lifting gully grates and manhole lids.

15,346. July 3, 1913.—Joseph Hollis, 49 Disraeli Road, Forest Gate. Fire escapes applicable also to lift and lowering apparatus.

15,388. July 3, 1913.—W. R. Lyttleton, Triplex Works, Hythe Road, Willesden, N.W., and the Triplex Safety Glass Company, Ltd., 1 Albemarle Street, Piccadilly, W. Apparatus for introducing viscous liquid, such as pitch, into a narrow groove, or for luting joints with a liquid cement.

15,612. July 7. 1913.—L. P. Basset, 43 bis rue des Chesnaux, France. Process of and a furnace for manufacturing cement.

15,731. July 8, 1913.—A. J. Rison, J. D. Rivers, F. C. Hartshorn, and James Morrison, Hastings, Hawkes Bay, New Zealand. Sash fastener and silencer.

15,779. July 8, 1913.—W. S. H. Gough, 16 Brocklebank Road, Wandsworth, S.W. Sash fastener.

15,802. July 9, 1913.—Ben Morton, 78 Quay Street, Deansgate, Manchester. Reinforcing brick walls and the like.

16,296. July 15, 1913.—Dated under International Convention Aug. 3, 1912 Leopold Kohn, 6 Margarethenstr, Vienna IV., Isidor Koenigsberg, 6 Zwerngasse, Vienna XVII., Austria. Method of colouring artificial stone or artificial stone material in a manner resembling marble.

18,630. Aug. 16, 1913.—J. H. Cartland, Constitution Hill, Birmingham, and Joseph Lilly, 135 Waverley Road, Small Heath, Birmingham. Mechanism for adjusting hinged windows and the like.

19,167. Aug. 23, 1913.—H. P. Williams, 190 Creek Road, Deptford, S.E. Bonding bricks or blocks.

19,455. Oct. 7, 1913.—J. H. James, architect, Y-Gelli-Wen, Tongwynlais, Cardiff. Fuel economising device for use in kitchen-range boiler flues.

22,061. Sept. 30, 1913.—Dated under International Convention Sept. 30, 1912. W. B. Bastian, 548 W. Lake Street, Chicago, Ill., U.S.A. Gas water heaters.

27,807. Jan. 23, 1914.—Frank Iliff, Levenshulme Rectory, Manchester. Heating and ventilating apparatus.

1,695. Jan. 21, 1914.—Chas. Swann, 26/27 Queen Street, Gravesend, and the Invincible Vacuum Cleaner Company, Ltd., 26/27 Queen Street, Gravesend. Vacuum cleaning apparatus.

1,805. Jan. 25, 1914.—E. A. White, "Killowen," Terenure Park, Terenure, Dublin. Roofing composition.

2,084. Jan. 26, 1914.—R. A. Marr, 402 Warren Crescent, Ghent, Norfolk, Virginia, U.S. Preservation of wood.

2,752. Feb. 3, 1914.—Ernest Gibson, The Hollies, Hartshill, Atherstone, and Jack Thompson, 70 Windsor Avenue, Blyth. Automatic safety appliance for use on lifts and the like.

3,949. Feb. 16, 1914.—Dated under International Convention Feb. 24, 1913. J. V. L. Wagner, architect, Rugendas Strasse 15, Augsburg, Bavaria, Germany. Draught improver for chimneys.

6,069. March 10, 1914.—H. J. Spratt, Ensign Works, Clifford Road, Walthamstow, and Houghtons, Ltd., 88/89 High Holborn, W.C. Drawing-board and like stands.

7,584. March 25, 1914.—Dated under International Convention Oct. 25, 1913. K. O. S. Ramondt and E. J. Vallema, 11 Jansweg, Haarelem, Holland. Emergency exits.

10,018. April 23, 1914.—Albert Sauvee, Union Works, 60 Park Street, Southwark. Gravity chutes for conveying goods from one floor of a building to one on a lower level.

10,572. April 29, 1914.—K. E. M. Scheit, Kranichfeld, Thuringen, Germany. Frame saws.

16,187. July 14, 1913.—Dated under International Convention July 15, 1912. Max Arndt, 35 Aureliusstr., Aachen, Germany. Arrangements for controlling the quantity of heat supplied to heating radiators.

16,465. July 17, 1913. W. E. Bowl, Warborough, Wallingford, Berks. Tubular locks.

16,727. July 21, 1913.—J. H. Walker, Princes Street, Dunedin, New Zealand. Fastenings for window sashes.

19,550. Aug. 29, 1913.—S. H. Gordon, Rose Street Foundry, Inverness, and T. W. Cuthbert, Achindunie, Alness. Staple.

20,142. Sept. 6, 1913.—T. R. Ellin, Footprint Works, Hollis Croft, Sheffield. Pipe-cutting implements.

20,761. Sept. 15, 1913.—F. W. Philp, 32 Salisbury Road, Plymouth. Paint kettles.

22,779. Oct. 9, 1913.—Frederick Evans, 37 Gordon Road, Seaforth. Beam compasser or trammels.

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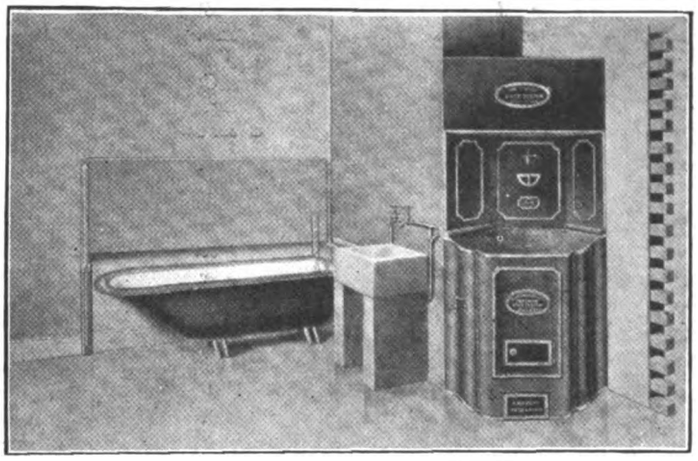
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22,565. Oct. 7, 1913.—H. W. Lardner, The Lodge, Bromley Avenue, Bromley, and James Gibbs, 50 Salisbury Road, Harringay. Chimney coils.

25,221. Nov. 5, 1913.—James Wright, 26 Inverkip Street, Greenock, Scotland. Fastening roofing slates, roofing tiles, and the like.

25,572. Nov. 8, 1913.—Robert Illemann, 54 Scott Street, Port Dundas, Glasgow. Process for the manufacture of cement out of spent or waste lime.

26,106. Nov. 14, 1913.—John Newey, 14 Cadbury Road, Mosley, Birmingham. Fire grates.

26,320. Nov. 17, 1913.—W. H. Luther, of Frederick Braby & Co., Ltd., Petershill Road, Glasgow. Roof lights and the like.

26,477. Nov. 18, 1913.—Albert Pidgen, 247 Lewisham High Road, Lewisham. Door-closing and checking device.

27,786. Dec. 3, 1913.—M. A. Holmes, 135 Beresford Road, Rusholme, Manchester. Glazing of roofs.

30,040. Dec. 31, 1913.—H. J. Beresford and J. Beresford & Sons, Ltd., Cato Street Works, Vauxhall, Birmingham. Flushing tanks and cisterns.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Our Duty.

SIR,—Your admirable Leader last week has already done much service, but I would have liked to have seen it appearing in every trading journal. Why should we have such an amount of fear and distrust? Surely Britons are not cowards. I meet travellers of firms who tell me, "My people have given me notice and are stopping all advertisements and all publicity." Why? War is not taking place in this country, at any rate at present. The Government, which politically I have never held in favour, is behaving as any British Government should, and is setting such an excellent example that surely, surely it must be a disgrace not to follow it. I am retaining every member of my staff, who are exhibiting to me the utmost loyalty, and intend to do so, I hope, to the end of this unfortunate war which has been thrust upon us. Even the numerous firms in the building trade who supply foreign materials could, I suggest, still carry on their business, quite a number, I am informed, holding large stocks. Again, all our thanks from all engaged in building operations are due to you for last week's article.—Your obedient servant,

CONTRACTOR.

London: August 10, 1914.

SIR,—I have been very much impressed by the commonsense displayed in your Leader of the 7th inst., and I trust that your large circle of readers will act in accordance with its tenets, and will also bring it to the notice of their friends.

Evidently the same feeling that prompted the closing of ranks in some directions has influenced the building trade, and the renewal of building activity at this stage will not only decrease the volume of unemployment, but will also have an healthy effect otherwise. For the more, Sir, that by our actions we can impress both our own brethren and our present foes with the sense of our calm confidence in the justice of our cause, and consequently in the ultimate triumph of our arms, the sooner are we likely to experience the realisation of our hopes. Confidence in ourselves will beget confidence in our defenders, and will in a measure tend to disconcert our enemies.

I am not writing idly or merely as a propounder of theories. I have this week arranged on behalf of a client for the prosecution of some work which will incidentally give employment over a period that cannot fail to be one of stress and strain in any case. Though I refrain from signing my name here, I may say that I shall welcome being inundated by circulars from trade firms and my time being taken up by calls from their representatives, as it will be a sure sign that manufacturers are retaining the calmness so characteristic of the British character.

Anything, however, in the nature of an inflated price-list would certainly be detrimental to builders' merchants, for architects and their clients would alike resent such an unpatriotic attempt to make capital out of our country's call to arms.

Therefore, Sir, let us, soldiers and civilians alike, act in concert together during the present crisis. Each for all and all for each.—Faithfully yours,

R.I.B.A.

Kensington: August 12, 1914.

SIR,—As the cashier of an important firm connected with the building industries, I beg to thank you for your very soothing article which appeared in your Journal last Friday. It came as an oasis in the desert, for just as we were becoming parched with anxiety as to "what will happen," we read your reassuring Leader. You rightly say "the Government has not been caught napping." This is in great evidence from what we learn from our daily papers. We see that a grant has been ordered for four millions for the extension of building operations, and we learn this morning of the inspiring notification of the First Commissioner of Works, which ought to fill us with the most sanguine hopes and allay our fears. Your appeal "to close up the ranks and keep things going" has met with at least one good result to my own knowledge, for our firm, strong in their resolution previous to reading your article, are now quite firm in their resolve to make no difference or changes in their offices or staff, unless, and until, absolutely compelled so to do. Your appeal "to close up the ranks and keep things going" ought to meet with just as much enthusiasm as the appeals of the Queen and the Prince of Wales, because they are all for one cause. Again thanking you, yours obediently,

CASHIER.

August 11, 1914.

P.S.—Just to show you what confidence we have in the state of affairs, this morning I have given out an order for advertising.

SIR,—A few jobs which might be proceeded with, culled from your own Journal:—

	£
Westminster Municipal Buildings	350,000
Mersey Docks and Harbour Board Sheds	226,000
Bradford Corporation Housing Scheme	168,000
Hull, Housing Scheme	107,000
Workmen's Dwellings, Swansea	102,000
The New Theatre in St. Martin's Lane	50,000
Tilbury, Workmen's Dwellings	50,000
University of Manchester Arts Dept.	30,000
Sheffield, Union Hospital Extensions	23,000
Newcastle Corporation Workmen's Houses	20,000
Dublin, New Electricity Buildings	18,000
Washington, Durham, Workmen's Dwellings	12,200
Wigan, Girls' High School	11,500
Pittenweem, N.B., Town Hall	11,000
North Ealing, St. Barnabas Church	10,000
Worcester Council Schools	10,000
Leicester, Tuberculosis Sanatorium	10,000
Shorncliffe, New Church	10,000
Sutton Coldfield, New Girls' School	10,000

New Town Halls at Bromley, Kent, and Southampton, and a considerable number of jobs under £10,000 in size.

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T. SQ.

Croydon: August 12, 1914.

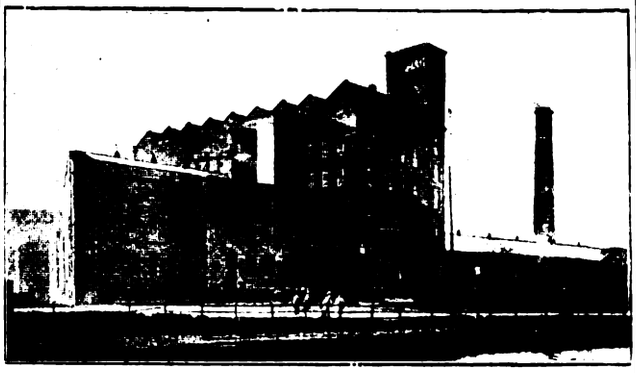
THE scheme for the reconstruction of the Manchester Athenæum, in Princess Street, has been dropped. At a meeting of the directors the following resolution was passed: That the amount named as the cost of the proposed alterations, namely £21,350, and furnishing in addition, amounting probably to £25,000 in all, is considered an excessive amount to spend on this building, and that the present scheme be abandoned.

THE Civic Regalia Committee of the Exeter City Council have considered the purchase of badges for the Mayor and Sheriff, and recommend that badges should be obtained for use upon semi-State occasions, and that designs should be submitted to the Council of the Royal Archæological Institute. The latter Society presented a mayoral chain and medallion to the city on the occasion of their summer meeting in Exeter forty years ago.

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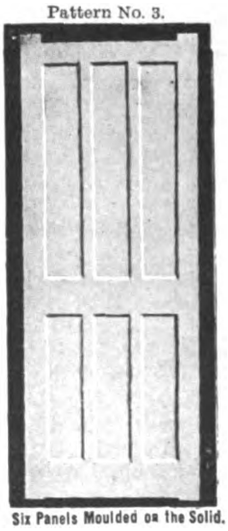
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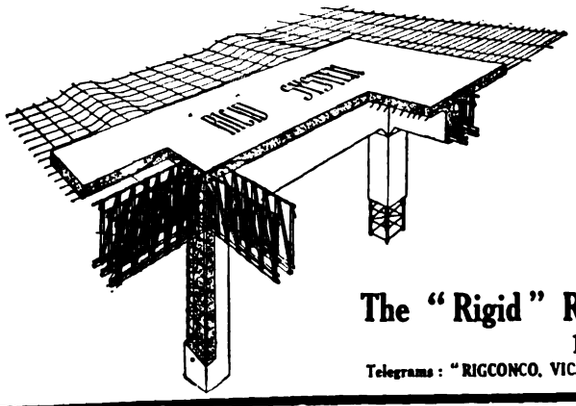
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THE ARCHITECT

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PLANNING OF SECONDARY SCHOOLS.

New Regulations* have now been issued by the Board of Education which modify considerably the planning of secondary schools from the type that followed from the older regulations, of which the last issue was made in 1907. Since that time school planning has advanced, the most notable variation from the older type being the arrangement of the hall. This is now no longer a central but an assembly hall. The old regulations had in view the desideratum that the rooms should be grouped compactly and conveniently in order to secure easy and effective supervision and economy in working and maintenance. It was then considered that this result could be most satisfactorily secured by placing the class-rooms on three sides of, and opening from, a central hall. But even at the time when this desideratum was sought, it was recognised that, in the case of small schools, and those in which the hall is made to serve a variety of purposes, it is often found more convenient to separate the class-rooms from the hall in order to avoid disturbance. The fetish of the central hall, which has so long dominated our school planning, is now discredited for all occasions. Disturbance has been found to be its invariable concomitant, and adequate lighting and ventilation of class-rooms and hall have often presented considerable difficulties.

Therefore the central hall has had to go and the assembly hall now takes its place. With regard to this the new regulations prescribe that (*a*) it is desirable to place the hall so that noise in it will not disturb the work in the class-rooms; (*b*) for this reason, as well as for ventilation and freedom from dust, the class-rooms should not open directly from it; (*c*) the hall may therefore be altogether or partly detached from the main building; (*d*) it must be fully lighted, warmed, and ventilated. It is also provided that when there is no room intended for specific use as a gymnasium, the hall must be made suitable for the purpose of physical training. In this case it should be completely separated from the class-rooms and be so placed that it does not serve as a passage-way from one part of the building to another; and its construction, with regard to ventilation, lighting, flooring, and wall-space, should approximate as closely as possible to that of a gymnasium. The need of making provision for physical training in every new school is, indeed, one of the salient features of the new regulations in place of the older pious expression of opinion that a gymnasium is desirable.

The position and relation of the assembly hall to the class-rooms have, as many of our readers are aware, received the modification that is now officially recognised in the new regulations as the outcome of discussions which have taken place during the last six years in numerous particular cases between the officers of the Education Board and the representatives and architects of Local Education Authorities and Governing Bodies. The fact that regulations of the Board are not to be regarded as the laws of the Medes and Persians, which has been shown by practice, is emphasised in the prefatory note to the new edition, which says: "Taken as a whole, the regulations are not a code of precise and definite rules with which compliance is required. A great part of the regulations does not admit of expression in the form of requirements, and their main object is to facilitate co-operation between the Board of Education and the Local Government Board on the one hand, and local education authorities and school architects on the other, in securing the greatest amount of comfort, convenience and suitability which a reasonable expenditure can be made to yield." It is gratifying to find, also, in the prefatory note that the Board "do not ignore the effect of beauty of design, material or decoration on the minds of the children or of their parents, whose respect for, and belief in, education are essential to progress."

A distinction is now clearly made between playgrounds and playing-fields. It is no longer required that these should necessarily be part of the school "site," although it is recognised that the proximity of playing-fields to the school should be as close as possible. The area of play-ground required remains as before, but instead of a statement that three or four acres are "desirable" for the playing-fields of a small school, it is now more closely defined that the minimum effective area for a playing-field may be taken as two acres.

The modification in the treatment and position of the hall is naturally reflected on the class-rooms. These being no longer attached to the hall, an opportunity is afforded for their cross-ventilation, and when this is adequate the normal height of class-rooms may be diminished by one foot. The height of class-rooms ceiled to the collar-beam is definitely reduced, being now 10 feet from floor to wall plate, and 13 feet to the ceiling, instead of 11 feet and 14 feet, as hitherto. Whilst right-hand windows are now recognised, it is—quite rightly—stipulated that windows in the right-hand wall should not throw a stronger light from the right of the pupils than from the left. This obviously prevents the use of right-hand windows of equal height to those on the left, as when this is done, as has been the case in some modern schools, the desks nearest to the right-hand wall must necessarily have a stronger light from that side than from the left.

It may be noted that it is now stated that "French casements may be approved for some rooms." This seems to indicate approval of the modern semi-open-air form of class-room. The lower glass line of the main lighting windows is now recommended as not more than 3 feet 6 inches above the floor instead of 4 feet, as in the older regulations.

Some modifications are made in the size of cloak-rooms. Instead of a minimum distance of 12 inches apart between the pegs, it is now recommended that the pegs in cloak-rooms for boys should be 10 inches apart, and in those for girls 15 inches apart. Lavatory basins are reduced in number. Instead of "one for every ten scholars up to 100, and one for every fifteen scholars above the first hundred," we now have prescribed: for boys, "one for every twenty pupils up to 100, and one for each succeeding twenty-five"; and for girls, "one for every ten pupils up to 100, and one for each succeeding twenty."

Rooms for special teaching, laboratories, lecture-rooms, art rooms, housecraft rooms, handicraft rooms,

* *Building Regulations for Secondary Schools.* **Being principles to be observed in planning and fitting up new buildings in England. (Eyre & Spottiswoode, Ltd., East Harding Street, E.C. 2½*d.*, by post, 3½*d.*)**

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are more fully treated in detail than in the former regulations, and particular attention is given to the requirements of a gymnasium. Recognition is also given to the principle that in special circumstances the erection of schools of a lighter and less permanent construction may be sanctioned.

NOTES AND COMMENTS.

An article in the *Birmingham Daily Post* calls attention to the fact that the windows in the Lady chapel of Lichfield Cathedral were originally part of the treasures of the wealthy and powerful Abbaye de Herckenrode, situated a few miles from the small episcopal city of Tongres, which has already figured in the present war and of which a description appeared in *The Architect* of June 26. The article states that at the time of the Revolution all conventual and monastic buildings were seized as "biens nationaux," dismantled, and in many cases partly destroyed. Herckenrode was among those which suffered very badly; it lost its proud position, its ladies were scattered, and the great "Abbaye" became national property. The beautiful "Oratoire" was destroyed, but its "vitraux" had fortunately been removed and hidden in a place of safety. They were bought by Sir Brooke Boothby in 1804, and the sum of £400 was to be paid for them. The greater part of the "Abbaye" estate was bought about this time by the ancestor of the present owner, who brought to it much of the furniture from another estate, where he had once entertained Louis XV. The amount agreed on for the windows, however, so it is reported, owing to the difficulties of the time and the dishonesty of the agent entrusted with the transport of the precious glass, never reached those who sold it. Nor could they ever find out where it went, as they were led to understand that the vessel conveying the glass had been lost during the troublous times of the Revolution, and the Napoleonic wars which followed. So those who had preserved the glass with such care lost all, and it is said in the district that they were reduced to great poverty. It was not till the middle of last century that the then owners of Herckenrode learnt that the "vitraux" were not lost, but were enshrined at Lichfield Cathedral! As the windows have been valued at £10,000, and payment for them has never reached Belgium, it would seem to be a graceful act on the part of Midlanders—who own these treasures of stained glass—were they to repay the debt still owing. This could be done in the form of a contribution for the original amount to the fund opened on behalf of our brave comrades and allies in the little kingdom to which we owe so much.

Russia is experiencing at present an extremely rapid increase of town population, which can be compared only with the growth of some American cities. The contrast between town and country is particularly noticeable, because on the one hand the overcrowding of the population in the towns is in some cases greater than in the most overcrowded cities of West Europe, and on the other hand there are enormous spaces with scarcely any population. The bad housing conditions which prevail in the Russian towns are aggravated by the fact that it is the worst of the known housing methods—namely, the "caserne" system (blocks and back-to-back system), which has taken root in the largest cities of the country. A house of many storeys, with long and deep yards, and with various side constructions, becomes from year to year the dominating feature of house construction in the large cities. Still, the greater part of the towns consist of small wooden houses, surrounded by gardens. Thus the most intensive system of construction is prevailing in some large cities of Russia, intensive both as regards the height of the building and as to the density of population in the house.

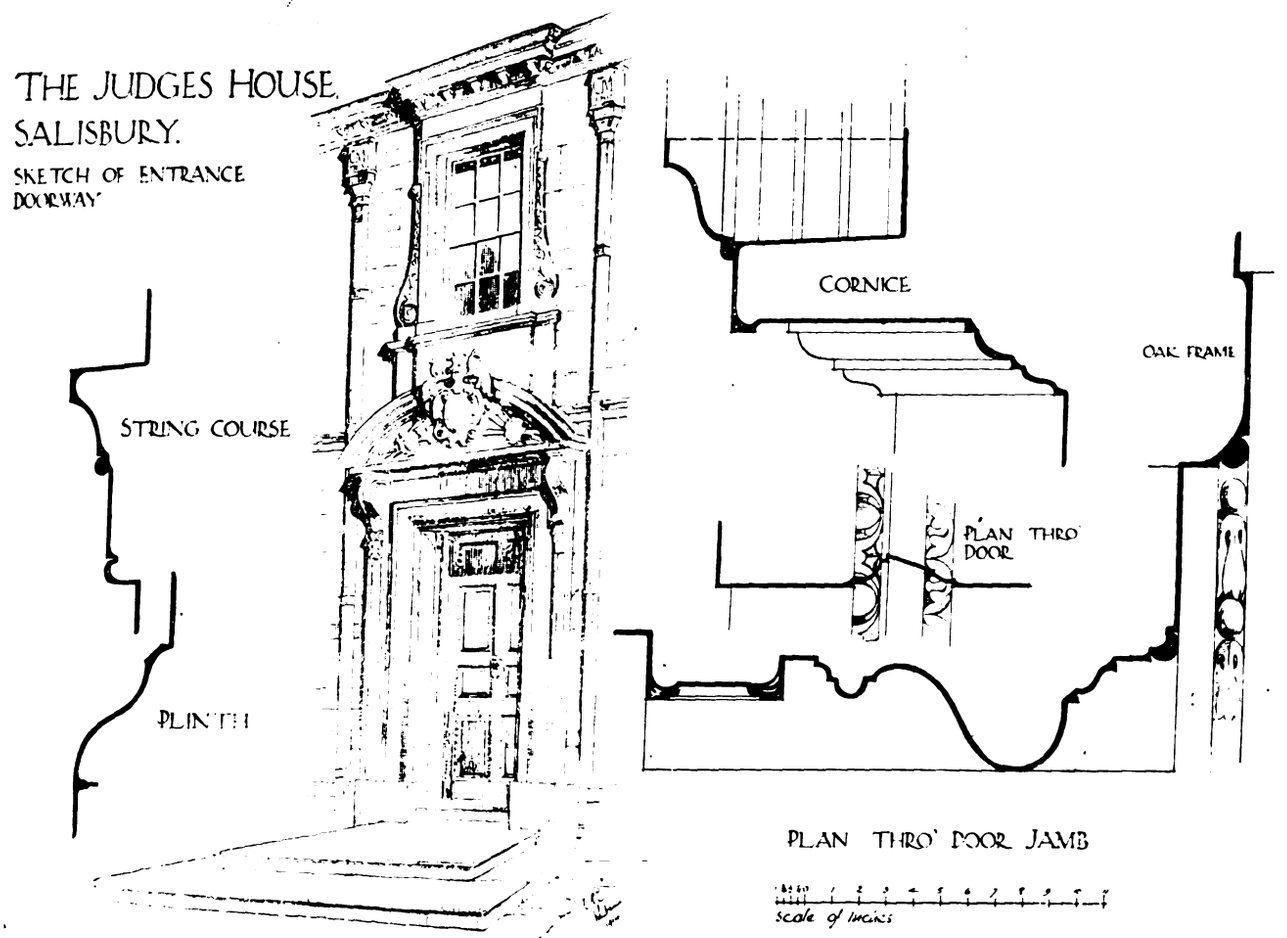
Tattershall Castle, with its famous mantelpieces reinstated, has now been reopened by Lord Curzon of Kedleston in the presence of a representative assembly, including Sir Henry Howorth, President of the Royal Archæological Institute, the Earl of Winchilsea, Lord Brownlow, Sir Hickman Bacon, Dr. Mansel Sympson, Sir William Hope, Mr. J. Alfred Gotch, of Kettering (Vice-President of the Royal Institute of British Architects), Capt. Weigall, M.P., Mrs. Weigall, and the Baroness von Eckhardstein, the Mayors of Lincoln and Boston, and also members of the Lincolnshire Architectural Society, the Society for the Protection of Ancient Buildings, and the Spalding Gentlemen's Society. The castle is peculiar in being surrounded by an outer and an inner moat, both of which have now been excavated and are charged with water, the outer one only partially so, however, because for some distance the circuit traverses beyond the boundary of Lord Curzon's property. The existence of the outer ring had always been doubted—in some instances positively denied—but now the visitor may see it for himself, and also the place where it joins the inner water. The inner circle of water sweeps the castle walls, and extends round the keep. When Lord Curzon entered into possession the castle was merely a hollow ruin and open to the sky, the four walls a shell standing high and square—altogether a noble, dilapidated landmark, from the summit of which signals from the Boston Stump used to be received during the Napoleonic wars and passed on to the North. Now, all the four storeys have been repaired. Stout oak beams support each floor—of plaster, mixed with brick and charcoal—and save for the tapestry, the red brick walls look as they did centuries ago. Similitude, indeed, has been lent to one of the rooms by furnishing it with tapestry and old Tudor furniture, such as a refectory table and a few chests.

At a meeting of Arbroath Town Council the Town Clerk reported that he had written to the Secretary of the Board of Works that the difficulty with regard to the Board taking over the Abbot's House, which adjoins the Abbey ruins, seemed to be removed by the power which had been given to the Commissioners of Works under the Ancient Monuments Consolidation and Amendment Act, 1913, and he had forwarded a copy of the memorial sent to the Treasury, and had appealed on behalf of the Magistrates and Council to the Office of Works to carry out the proposed arrangement. The Office of Works had replied stating that though the Act of 1913 had empowered the Commissioners to purchase as an ancient monument such a building as the Abbot's House the funds at their disposal had not been increased to an extent in any way commensurate with their increased responsibilities, and they regretted that, while they would welcome such an improvement of the surroundings of the Arbroath Abbey as would result from the demolition of the old buildings and the formation of an ornamental pleasure ground on the site, they were unable to assist the scheme in the manner suggested. The Town Clerk further reported that he had since been in London, and had seen the Secretary of the Office of Works, who promised to ascertain whether any payment could be made out of the annual sum voted by Parliament for the maintenance of the Abbot's House for a term of years in place of purchasing the building, but a letter had subsequently been received from the Secretary stating that after consultation with their officials it was found that such a proposal was contrary to practice, and would not be allowed by the Treasury. The Council agreed to let the house for a term of years in the hope that the Government would purchase the building at a future date.

The Council of the Royal Society of Arts, under the terms of the Stock Trust, offered the Society's Gold Medal, or a prize of £20, for competition amongst students of the Schools of Art of the United Kingdom,

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"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.



From a Prize Drawing by "PLATO."

at the National Competition of the Board of Education held in 1914. The prize was offered for the best set of original designs for an architectural decoration, to be carried out in painting, stucco, carving, mosaic, or any other process. The Council of the Society, acting on the report of the examiners in the National Competition of the Board of Education, have awarded the above prize to Horace Clarence Harvey, Hackney Institute School of Art.

There were seven competitors for the prize.

John Stock, of Hampstead, was Painter to His Majesty's Dockyards. He died in 1781, leaving the bulk of his property, upwards of £60,000, to the Worshipful Company of Painters, with instructions that the interest should be distributed to the aged blind, the poor of the Company, and others. He left £100 Consols to the Society of Arts, with the condition that the interest should be applied for the promotion of drawing, sculpture, and architecture.

The award of the "John Stock Medallion" frequently appears in the Society's old prize lists down to the middle of the last century. It was nearly always given for architectural designs, though occasionally for sculpture. Of recent years, as the accumulated funds permitted, occasional prizes have been awarded under this trust. The last award was made in 1908.

THE JUDGE'S HOUSE, SALISBURY.

THIS remarkably fine house is the work of Sir Christopher Wren, and was erected at the beginning of the eighteenth century. The entrance doorway, which forms the central feature, is particularly striking on account of its perfect proportion and the vigorous handling of the various mouldings. The door and frame, which are of oak, are both finely carved.

WAR ITEMS.

FRENCH PLUCK.—Au moment où nous composons ce numéro la France mobilise toutes ses forces pour défendre ses frontières menacées. Dans les conditions où la vie publique va être appelée à fonctionner, nous ferons tous nos efforts pour faire paraître *La Construction Moderne* aussi régulièrement que possible. En l'absence d'un grand nombre de rédacteurs, dessinateurs, graveurs, et imprimeurs, nous n'osons affirmer de pouvoir réussir dans notre tentative. Nos abonnés voudront bien tenir compte des difficultés où nous nous trouvons, et ne pas nous rendre responsables des retards ou des interruptions dans le service de notre publication.

Déjà, dès aujourd'hui, nos collaborateurs pour notre supplément le *Moniteur général*, pour nos consultations juridiques et techniques nous font défaut.

LA DIRECTION ET L'ADMINISTRATION
DE *La Construction Moderne*.

Now that the financial difficulties are being removed a great responsibility rests with our manufacturing firms, as will be seen on reference to our leading articles these last two weeks. We are very much alive to the risk of this country losing a large volume of trade by the, as we maintain, unnecessary fears shown by some of our manufacturing firms, and what is still of far more importance, the closing, or partial closing, of large works will most seriously affect the question of employment this coming winter. We are absolutely convinced that the firms who maintain their output to the utmost of their ability from a selfish standpoint alone will reap enormous benefits. A reference to our correspondence columns of last week and this will give evidence, and to our knowledge firms who are showing themselves active are already reaping the benefits of their activity. We appeal to those firms on public grounds to make every effort to continue

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their business on the same lines as hitherto. Let your travellers be busy, your lists go forth asking for business, and your advertisements appear in the papers as before. We should like to see every big place of business with these words prominently outstanding: BUSINESS AS USUAL.

Amongst the benefits which should accrue to this country as a set-off to the losses and dislocation of trade may be included a large proportion of the exports from Germany of electrical machinery and apparatus which in 1913 amounted to £14,500,000, of which the sum of £12,000,000 may be allocated to those countries which are not at war, and is now open to our manufacturers.

Circulars have been issued by Aspinall's Enamel, Ltd., emphasising the fact that their enamel paints are made in London by an English company, and for the present will be sold at the ordinary prices. This is the right spirit for our manufacturers to adopt. Their business may in some cases be dislocated, but they must reset the disjointed parts and take advantage of the inability of our enemy competitors to open up fresh lines.

Austrian oak cannot now be imported, but Japanese is already on the market, and is scarcely distinguishable in appearance, whilst it can be supplied at no increase of cost.

At a meeting of the Trade Press, held last Monday in London, the following resolution was adopted:—

That this meeting of editors of trade journals representing most of the industries of the country, after studying the present commercial problems, has come to the following conclusions:—

That our commercial prospects were never brighter, and that given patience, confidence, and reasonable sacrifice, there is certain to be a splendid return in the early future.

That we strongly urge (*a*) the public to pay prompt cash for their present requirements; (*b*) the retailer not to take unfair advantage of the moratorium; (*c*) the manufacturer to keep up his production; and (*d*) the banks to afford all possible support to both wholesaler and retailer.

That we request the Controller of Patents to exercise any power he may possess for revoking any British patents owned by hostile countries should they operate against British industry.

The Board of Trade has issued the following intimation:—

In view of the cessation of imports from Germany and Austria-Hungary and the fact that there are many articles hitherto imported from these countries of importance, if not of necessity, to British manufacturers, information is invited by the Commercial Intelligence Branch of the Board of Trade from importers of such articles as to their precise nature and quality, in order that steps may be taken to ascertain whether similar goods might be produced in this country, and, if so, where; or, if not, from what neutral sources they could be obtained.

Doubtless in a large number of cases importers have already taken steps to inform themselves on these points, but from cases which have come under the notice of the Commercial Intelligence Branch it is believed that in some instances it has not proved an easy matter to obtain the necessary information, and it is thought that in such cases the branch may be able to render some assistance.

Communications should be addressed to the Director of the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, E.C.

The Beaux Arts Committee at its meeting on August 19 decided that the work of the Atelier should proceed as usual.

The esquisse for the first monthly competition will be held on September 5 and 6 in accordance with the programme, and the first exhibition and criticism of the session will be held on October 7, as previously arranged.

COMPETITION NEWS.

CONWAY.—The architectural competition for the cottage homes to be erected at Llandudno Junction for the Conway Board of Guardians has resulted in the designs of Mr. S. Colwyn Foulkes, of Central Chambers, Colwyn Bay, being placed first and those of Mr. W. H. Masters, of Southampton, second. The scheme comprises four semi-detached houses, each to accommodate fifteen children and a foster mother. These houses are grouped around a receiving home to accommodate eleven boys and eleven girls and a matron. Provision is made for extension to the receiving home and for the erection of two pairs of future homes, the remaining portion of the land being used for recreation purposes.

DUBLIN.—His Excellency the Lord Lieutenant of Ireland has decided that in consequence of the various difficulties arising from the present situation created by the war to postpone the time for sending in plans, &c., for the Dublin town planning competition until April 1915.

DURHAM.—The result of the architectural competition in connection with the new hospital for the Board of Guardians has been announced as follows:—(1) Messrs. W. & T. R. Milburn, architects, Sunderland; (2) Messrs. J. H. Morton, architects, South Shields. Five competitors sent in plans, the others being Mr. J. G. Burrell, Durham; Messrs. Newcombe & Newcombe, Newcastle-on-Tyne; and Messrs. J. W. F. Phillipson, Newcastle-on-Tyne.

MIDDLETON.—Mr. Hastwell Grayson, M.A., F.R.I.B.A., the assessor in the Town Hall competition, has awarded the premiums as follows:—1st (£100), Mr. Alick G. Horsnell; 2nd (£50), Messrs. Briggs, Wolstenholme & Thornely; 3rd (£25), Messrs. Clapham & Symons-Jeune.

SUNDERLAND.—At a meeting of the Town Council it was announced that the assessor had awarded first prize in the open competition for designs for the proposed secondary school on the Barnes estate, Durham Road, to Design 58. This was unsealed and found to be that of Messrs. W. & T. R. Milburn, architects, of Sunderland. The second premium was awarded to Messrs. Crouch, Butler & Savage, of Birmingham, and the third to Mr. Alick G. Horsnell, of London. The school will accommodate 600 boys.

ILLUSTRATIONS.

COUNCIL SCHOOL, MILL HILL.

THE drawings we reproduce were prepared by Mr. Martin Shaw Briggs, A.R.I.B.A., in the competition announced for the Hale Grove Garden School, Mill Hill, and sent in by him before starting on his tour as Godwin Bursar for 1914. Subsequently the competition was tabooed by the Council of the R.I.B.A., and Mr. Briggs' drawings had to be withdrawn. This is not the first time that competitions have been condemned by the R.I.B.A. after drawings had been sent in, and we would urge greater promptitude on the part of the Council to prevent in the future such hardship on their members. The following is the author's report accompanying his drawings:—

The author of the plans submitted herewith has made the lighting of the classrooms the chief feature of his design. The whole of the twelve classrooms in the present scheme face either, south, south-east, or south-west, and the four classrooms of the future extension, placed on the north-west side of the site, have clerestory windows facing south-east. Both assembly halls and every one of the sixteen classrooms have crosslight and cross ventilation by means of windows. The area allotted for the future extension is so arranged that building operations can be carried on at any time without seriously disorganising the routine of the school. The infants would in this case use the girls' entrance as a means of approach to their own department during building operations.

The playgrounds lie on the south side of the site and will thus dry quickly after rain. The relative area of the two playgrounds could be slightly varied if desired, and the boys' playground could be increased in area if desired by placing the manual centre over the cookery centre. The total open space on the site amounts to 44 feet per head for the first scheme and to 30 feet per head for the complete scheme for 800 children. The caretaker's house is so placed as to command the approach to the school from Hale Lane, which is, and is likely to remain, the natural access to Hale Grove Gardens. A separate bathroom is not provided, although by

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a slight modification of the upper floor this could be contrived, but a tip-up bath is provided in the scullery, thus saving a considerable amount of plumbing.

The general grouping of the buildings towards Hale Grove Gardens has been influenced by two requirements which are essential in the author's mind. Firstly, that so far as possible the residential character of the road should be preserved (with this end in view he has contrived a grass forecourt, protected by railings, instead of placing an asphalte playground in front). Secondly, he has designed the elevations so that the future extension will eventually balance the caretaker's house, yet meanwhile there will be no awkward blank on this side.

The senior assembly hall is specially adapted for evening meetings, lectures, &c., and is accessible without passing through the school. Similarly the cloak rooms are well placed for the purposes of such gatherings.

Separate access to the manual and cookery centres is provided at hours when the school is closed, and the latrines for girls and boys respectively adjoin these buildings. It will be noticed that the caretaker's house also controls the approach to these manual and cookery buildings.

THE CATHEDRAL OF ALTAMURA, APULIA.

We now illustrate further details from the interesting cathedral at Altamura, in Apulia, as showing the phase of Italian Gothic architecture in that province.

HOME SANITARY SERVICE.

The following circular to County Councils and sanitary authorities has been issued by the Local Government Board from Whitehall:—

The Local Government Board wish to draw the attention of local authorities to the great importance of maintaining the efficiency of the sanitary service of the country at the present time.

In many areas the medical officers of health and other officers engaged in public health work will be giving their services to the navy or army, and it will be necessary for the local authority to make other arrangements for carrying on their work.

It is essential that there should be no relaxation of the activities of local authorities in the prevention and control of epidemic diseases, the protection of water supplies from contamination, and the promotion of child welfare, and in securing the wholesomeness of food supplies and the general sanitary condition of each area. On this account it is important that all vacancies in the minor sanitary staff should be filled up.

The actual steps which may be open to local authorities to replace medical officers of health who are absent on naval or military duty will vary in different districts. In many areas adequate temporary arrangements may be made by co-operation between the county and district authorities or between neighbouring district authorities.

The Board will be glad to be informed of each case in which a medical officer of health or chief sanitary inspector or inspector of nuisances has been given leave of absence for naval and military service, and of the steps taken to arrange for the temporary discharge of his duties.

The Edinburgh Dean of Guild Court have granted warrant to the Edinburgh Provincial Association for the erection of new hostels for women students at East Craigmillar Park, Edinburgh. The buildings are to cost £40,000. They are three in number, and are part of a scheme of seven hostels, the remaining four of which will be built as required. The grounds will be laid out in hockey pitches and tennis courts. Each student will have a study bedroom, and there will be a dining room, a library, and a large drawing room, besides numerous bathrooms. Warrant was also granted at the same meeting for the erection of new halls in connection with Nicolson Square Wesleyan Methodist Church, Edinburgh. The cost of the buildings will be £5,000. They will consist of a hall for 400 persons, a smaller hall for 180, and eight class rooms. An application for the demolition and removal of the old tower in St. Cuthbert's Churchyard on behalf of the heritors was before the Court, but on the ground that the tower was one of the ancient monuments of the city the application was continued with a view to the tower being preserved.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A special meeting (open to the whole profession) was held at the Institute on Friday, August 14, 1914, at 4.30 p.m., to consider the best way in which architects can offer their services in the present crisis. The President, Mr. Ernest Newton, A.R.A., was in the chair.

The President's letter convening the meeting was in the following terms:—

9 Conduit Street, W.,
August 11, 1914.

Sir,—The following suggestions have been made to me of ways in which architects could be of assistance at the present time:—

1. By offering their services to the Government, either collectively or individually, in connection with the building, equipment, inspection, and maintenance of temporary barracks, hospitals, &c., or for any other kind of work which they are qualified to perform.

2. By arranging to look after the work of young architects who are already called out, or who contemplate joining the Forces.

3. It has also been suggested that a subscription list be opened to enable architects to contribute as a body to the Prince of Wales's National Relief Fund.

The Institute is proposing to act in conjunction with the Architectural Association, which is already moving in the matter.

A meeting will be held at No. 9 Conduit Street on Friday, August 14, at 4.30 p.m., for the consideration of these and any other suggestions.—I am, Sir, &c.,

Ernest Newton, President.

The President, in opening the meeting, said: I should like, before we consider the business which has brought us together, to state that, after the numerous communications which I have received, I felt it was necessary to get to work without loss of time. I was, therefore, unable to call the Council together before summoning this meeting, and they will, I feel sure, consider I have done right in not losing time. (Hear, hear.) I am proposing to ask them to meet as early as possible.

The specific services to be suggested under No. 1 of the circular which you have received are intended as indications only. There are, of course, many others, which we as architects can offer, apart from those which we can give as citizens. We can, for instance, offer assistance in regard to the proposed housing and other schemes. It has also been suggested that, subject to the approval of the Council, we might offer our ground-floor galleries. The Architectural Association has already a good deal of information as to other work which we might do, and I will presently ask the President, Mr. Maurice Webb, to give you an outline of what they are doing.

With regard to No. 2, no explanation is necessary. Many young architects have left their work, with nobody to look after it in their absence, and we must, of course, help them.

I shall, presently, ask Sir Aston Webb to move No. 3, and I will, therefore, not anticipate him in saying anything about the proposal, except that I shall ask the Council to send a donation from the Institute. (Hear, hear.) I have not yet had an opportunity of learning if the Architects' Benevolent Society has adequate funds at its disposal, and whether an appeal for subscriptions should be made.

It will be necessary, in order to carry out these proposals, to appoint a representative Committee, which should have power to add to its numbers, and to form Organising Committees to deal with different branches of the work. I propose to call a meeting of this Committee next Tuesday.

I think it will simplify matters if we have formal resolutions covering suggestions 1, 2 and 3, and the appointment of this Committee, and it will also save time if any gentleman who has suggestions to make will make them briefly now, and then send them at once, in writing, to the Secretary of the Institute, in order that they may be considered by the Committee.

I will ask Mr. Maurice Webb to give the meeting an outline of the valuable work which the Architectural Association has already done, and I shall then ask Mr. Hubbard formally to move the first resolution.

Mr. Maurice Webb: I should like, first, on behalf of the Association, to say that we are only anxious to help and assist the Institute as far as we possibly can in any proposals it may bring forward. As regards the actual work which we are doing at the moment, we are endeavouring to

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get into touch with all men who feel they would like to do something to help at the present time; men who can only give up part of their time, and also men who have tried to join the Territorial Forces, but owing to the fullness of their ranks have not been able to get in at present. But we are not able to do anything, and we do not wish to do anything which will interfere with the regular recruiting, either for the Army or for the Territorial Forces later on. For this purpose we propose to affiliate ourselves with a central organisation, called the London Volunteer Defence Force, which, I understand, expects shortly to obtain Government recognition. Lord Desborough is the Chairman, and it is supported by a very influential committee. Their scheme is to start training centres all over London, and we shall form one of those centres for men who can only give up part of their time, having drills and musketry practice every night and at other times as may be arranged. For men who can give their whole time I hope we shall provide a fuller and better system, and that we shall be able finally to supply a complete company of men who are willing to give up their whole services and affiliate themselves with the Artists' Rifles, or with some engineering Territorial battalion, as soon as we are allowed to go on. But at the present time there is no further recruiting for the Territorials, I understand. For the part-time men we shall have to go on until things develop a little more. At present we have the names of 250 men who are willing to do something, and more are daily coming in. We have rifle ranges at our disposal, a drill hall and drilling grounds, and we have our own cricket ground at Elstree, which later we shall be able to use for week-end camps. As far as the Association goes, I think that is the best side of the work for us to tackle. All men over 30 and up to 45 are eligible, and I hope that later the younger men will be, but at present we cannot drill them if they are eligible for Lord Kitchener's Second Army. In addition we are endeavouring to help the British Fire Prevention Committee, for men who are less martial spirited and who would like to join an emergency fire force, and who are versed in fire work and dangerous structure work for either part time or whole time. I cannot say anything further, except that our Secretary is here, and he has full particulars of what we are doing and will be pleased to take the names of any who are willing to help us. (Applause.)

The President: I will now ask Mr. Hubbard formally to move the first resolution.

Mr. Hubbard: The resolution which has been entrusted to me is as follows:—

"That this representative meeting of the architectural profession offers its services to the Government in whatever capacity they can be most useful at the present time. Also that, subject to the consent of the Council, the R.I.B.A. offers the Government the use of the Institute's ground-floor galleries; and that an intimation giving effect to these offers be forwarded to the proper quarters." I beg, Sir, to formally move that resolution.

Mr. H. W. Wills: I shall be pleased to second it.

Mr. Alan E. Munby [*F.*]: I have been asked by a gentleman who is not able to be present, but who has been a member of the Council for many years, to say that the Institute should take into consideration the fact that by offering services to the Government we may possibly be doing people out of work. The resolution has not been moved quite in the terms in which it is printed, therefore its scope is not as wide. But that is a possible point of view, and I promised to put it forward, namely, that there might be people who have work in hand and whose services might be dispensed with if we made a *carte blanche* offer to the Government.

The President: The intention is to offer advisory services as far as possible, and to get the Government, if we can, to spread their work, which is done in departments now, amongst those architects who will be very much pinched. We are offering what services the Government may require from us, but we do not wish to take work away from architects, but rather, if possible, to increase it.

A Member: May I ask if we are offering services, or are we asking for work?

The President: We are offering services.

Mr. H. V. Lanchester: I support that resolution, and I would like to ask the Chairman to put it.

The resolution was then put and carried unanimously.

The President: I now call upon Mr. Gotch.

Mr. J. Alfred Gotch: I have much pleasure in proposing the second resolution: "That the architects who are in a position to assist young architects who are already embodied in or who contemplate joining the Forces be asked to send their names to the Secretary of the Institute, and state what they are prepared to do." I do not propose to say anything in support of this, because it is so obvious. My view is that, as far as possible, everyone should endeavour to keep things in their normal state. If young architects have gone to join the Colours and left their business, we ought to depart so far from the normal as to help them as far as we can.

Mr. E. Guy Dawber having seconded, the resolution was put to the meeting and carried unanimously.

The President: I will now ask Sir Aston Webb to move Resolution No. 3.

Sir Aston Webb, R.A.: The resolution I have to propose reads: "That a subscription list be opened to enable architects to contribute as a body to the Prince of Wales's National Relief Fund." The idea is that the Institute should open a fund and receive subscriptions which architects may choose to give here, instead of sending direct to the Fund. I hope the Institute will give a contribution as from the Institute. Our list will be open for small sums, as small as is wished, and as large as anyone likes. It seems to be the right thing, and is what is being done generally.

Mr. Lanchester: I will second the resolution. I understand that it says "architects," not necessarily members of the Institute?

Sir Aston Webb: Architects; yes, certainly.

The President: I think Sir Aston Webb has made it quite clear. The idea is that a subscription list should be opened, so that architects may contribute as a body, more or less, and the Institute will be asked to give a donation, too. It answers two purposes: one is to have as large a sum as possible given to the Prince of Wales's Fund—a large sum, we hope; and the other is to enable people who feel they can only give a modest sum to give it in this way rather than sending it direct. Very often, if a man feels he can only send a small sum, he says, "I don't like to send this little sum to the Central Fund," and so the Central Fund would lose that; whereas he would not mind sending it here, because it goes out as a Fund, without names and without amounts—simply a total.

Mr. Gerald Horsley: I believe there are some members who have already sent subscriptions to the Fund, and I was wondering if those members might be allowed to send in any subscriptions they can afford in addition to a fund for the assistance of the wives and families of architects who may require it in their absence at the front.

The President: You don't think those cases would be better served from the Architects' Benevolent Society?

Mr. Horsley: Oh, very likely, Sir.

The President: I do not think it was the intention to ask people to give twice, unless they feel very much disposed to do so. Those who have contributed locally to the Fund, or directly to the Central Fund, would not be expected to contribute again. But I suppose something will be done for the wives and families. I may mention here that I do not know how the Benevolent Society's funds stand at the present moment. Probably an appeal for subscriptions to that fund will be necessary later, and anyone who felt disposed would perhaps like to give to that instead of giving twice to the Prince of Wales's Fund. If nobody wishes to say any more on that point I will put that resolution.

Mr. Keen: I suggest there should be a date fixed for the receipt of these subscriptions. If the amount is to be sent in in a lump sum it should be done in a certain time.

The President: Do you mean a date after which subscriptions would not be received?

Sir Aston Webb: I think it would be a pity to do that. We cannot tell how long the war will last, and we are not specially going to send it as coming from us; it is merely that we all want to help this Fund; we do not want to have a big fund, so as to make a splash; we merely want to help it as far as possible. And if the necessity increases I am sure we shall be sending further sums.

The President: The Fund will be open, and from time to time contributions will be made.

Mr. R. Goulburn Lovell: In all probability we should get a better result and greater unanimity in the ranks if we could know the constitution of the Committee which will deal with this Fund, and if the Council of the Institute can form itself into a committee—we do not want to call it a war committee—to deal with emergencies of members of the profession in a broad way and ask for representatives from other Architectural Societies, from the Licentiates and the unattached members of the profession, we can claim that

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the Committee represents the whole profession. And we might set to work and ask all existing architects to do what is set out here, to place our brains and services at the hands of the Government and the local authorities. My home is at Eastbourne, and I find ladies interesting themselves in putting up hospitals; and if it could be arranged that architects should give their services to help these, they could do a great service. When we combine architects in this Committee, I feel we are doing two things: we are uniting the profession, the members of which we are very anxious to get at, and we go forward with a solid front. Therefore I think this subscription should be kept at a minimum fee—half-a-crown if you like—though that would not mean that anybody should not give what he likes. I feel that if the Committee were formed on the lines I suggest, and were handled throughout the country, we might get all the 8,000 architects on the list, each having given 2*s.* 6*d.*; and we shall have these 8,000 willing to give their services, or to help those who are unable to give services. Therefore the feeling I have in regard to the subscription which is being asked for is that it will depend a great deal on the Committee, and if I am in order I would move the constitution of the Committee.

The President: You are scarcely in order in doing that at the present moment. We are on the question of a subscription list being started. The question of the Committee is the next item.

The resolution having been put, was carried unanimously.

The President: The next resolution I was intending to propose myself. I move "That a Committee be appointed to deal with the matters connected with the foregoing resolutions, this Committee to have power to add to its numbers, and to form such organising committees as may be required, the Committee to report to the R.I.B.A. Council from time to time." If anyone will second that I shall be glad. I do not think I have anything to say in explanation of it.

Mr. E. Guy Dawber: I will second that.

Mr. Lanchester: Can we pass that, and then go on to the constitution of the Committee?

The President: This meeting is so big that if we are going to constitute a Committee meeting here I do not know how long we shall be at it. I think if anybody has views and will give the meeting the benefit of them with regard to the constitution, and if you will trust me to work in conjunction with the Council in forming a Committee on the lines that I gather the Committee should be formed, judging from the conversation in this room, I think that would be the best way of going to work.

Sir Aston Webb: I think the best Committee would be formed by yourself, sir, on the understanding that it is not limited to members of the Institute, but that it will include representatives from all known Architectural Societies. (Hear, hear.) I feel sure you have the confidence of everyone in this room that you will carry out that duty honourably and to the satisfaction of all of us. I should like to see it placed in your hands. (Loud applause.)

The President: That is putting a great responsibility on me, but I will undertake to do the best I can, with the assistance of my Council. I will, therefore, put that resolution, which I have proposed from the chair, and which Mr. Dawber has seconded.

Mr. Lanchester: That does not preclude the appointment of architects?

The President: No.

The resolution was carried unanimously.

Mr. Edward P. Warren: I ask if the Committee, in drafting the offer to the Government, will specify, for the benefit of the War Office, the kind of service that our members could render, because some of our members have special experience in various directions: some in connection with hospitals, for instance, and others in connection with engineering, which would make them useful in connection with those structures, and others have had experience in barrack building. So if some kind of classification could be stated, it would be useful in sending the offer to the War Office. Before your intimation arrived I had sent in my name to the War Office with regard to temporary hospitals and the conversion of buildings, because I happen to have had some experience in that kind of work, and I have also a little *locus standi* in being an officer of the National Reserve. I received a polite intimation of thanks for the offer, saying it had been noted. I have not, so far, heard anything further. Unless some definite statement is made as to the kind of service to be rendered, the offer may not receive the attention it should.

The President: I have already received several valuable suggestions. In the early part of the meeting I asked anybody who had suggestions to send them in writing to the Secretary of the Institute, so that they may be considered by the Organising Committee. They will then make a *précis*, and form lists of men who are able to do certain works, and the works which they will undertake to do. An intimation to that effect will be forwarded with the offer of services.

Mr. Lanchester: I think probably one of the first duties of the Organising Committee will be to circularise architects throughout the country; and we might take advantage of that circularising to ask them in what form they would like their names to be put down.

The President: I cannot say exactly in what way the Committee would work, but I imagine it would work in that way: to circularise people, or ask the building papers to put a notice in. Of course, we shall take steps to give full information. We shall not rely upon people writing; they might forget it. I am much obliged to you all for attending this meeting.

The meeting then terminated.

THE ARCHITECTS' WAR COMMITTEE.

On Tuesday, August 18, 1914, a meeting of this committee was held, at which were present: Mr. H. V. Lanchester, in the chair; Messrs. Walter Cave, Thomas E. Collcutt, G. Leonard Elkington, Claude Ferrier, H. M. Fletcher, L. Rome Guthrie, Edwin T. Hall, Gerald C. Horsley, Sir Thomas Jackson, Bart., Ralph Knott, F. S. Leslie, R. Goulburn Lovell, Edwin L. Lutyens, Sir Alexander Stenning, Sir Henry Tanner, Percy B. Tubbs, Paul Waterhouse, Adam F. Watson, Sir Aston Webb, Maurice E. Webb, John E. Yerbury, C. Stanley Peach (Hon. Secretary), Ian MacAlister (Secretary).

In the unavoidable absence of the President of the R.I.B.A., owing to a domestic bereavement, Mr. H. V. Lanchester took the chair.

Membership of the Committee.—The Chairman stated, on behalf of Mr. Ernest Newton, that, in accordance with the resolutions passed at the representative meeting of the architects held at the R.I.B.A. on August 14, the following gentlemen had been invited to serve upon the committee:—

President.—Mr. Ernest Newton, A.R.A.

Vice-Presidents.—Mr. A. W. S. Cross, Mr. George Hubbard, F.S.A., Mr. H. V. Lanchester, Mr. J. Alfred Gotch, F.S.A.

Hon. Secretary.—Mr. E. Guy Dawber.

Presidents of Allied Societies.—Mr. A. H. L. Mackinnon, Aberdeen Society of Architects; Mr. G. Salway Nicol, Birmingham Architectural Association; Mr. G. C. Awdry, Bristol Society of Architects; Mr. J. Archibald Lucas, Devon and Exeter Architectural Society; Mr. G. P. K. Young, Dundee Institute of Architects; Mr. T. Forbes Maclennan, Edinburgh Architectural Association; Mr. John Watson, Glasgow Institute of Architects; Sir William Portal, Bart., Hampshire and Isle of Wight Association of Architects; Mr. R. Caulfeild Orpen, A.R.H.A., Royal Institute of the Architects of Ireland; Leeds and Yorkshire Architectural Society; Mr. W. A. Catlow, Leicester and Leicestershire Society of Architects; Mr. J. Alfred Gotch, F.S.A., Northamptonshire Association of Architects; Mr. R. Burns Dick, Northern Architectural Association; Nottingham and Derby Architectural Society; Mr. A. F. Watson, Sheffield Society of Architects; Mr. Glendinning Moxham, South Wales Institute of Architects.

President of the Architectural Association.—Mr. Maurice E. Webb.

Vice-Presidents of the Architectural Association.—Mr. H. Austen Hall, Mr. G. Leonard Elkington.

Hon. Secretary of the Architectural Association.—Mr. H. P. Fletcher.

President of the Society of Architects.—Mr. Percy B. Tubbs.

Vice-Presidents of the Society of Architects.—Mr. E. C. P. Monson, Mr. R. Goulburn Lovell.

Hon. Secretary of the Society of Architects.—Colonel F. S. Leslie, R.E.

Messrs. T. W. Aldwinckle, J. Macvicar Anderson, F.R.S.E., Herbert Baker, Reginald Blomfield, R.A., Walter Brierley, F.S.A., Sir John Burnet, R.S.A., Messrs. Walter Cave, Basil Champneys, H. Chatfeild Clarke, Max Clarke,

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Thomas E. Collcutt, T. Edwin Cooper, Claude W. Ferrier, Right Hon. the Earl Ferrers, F.S.A., Mr. H. L. Florence, Sir Ernest George, A.R.A., Messrs. W. Curtis Green, L. Rome Guthrie, Edwin T. Hall, Henry T. Hare, G. T. Hine, Gerald Horsley, Sir Thomas Jackson, Bart., R.A., Mr. Ralph Knott, Sir Robert Lorimer, A.R.S.A., Messrs. Edwin L. Lutyens, A.R.A., C. Stanley Peach, Sydney Perks, F.S.A., W. E. Riley, John Slater, Lewis Solomon, Sir Alexander Stenning, Mr. Leonard Stokes, Sir Henry Tanner, C.B., Mr. Paul Waterhouse, Sir Aston Webb, C.B., K.C.V.O., R.A., Messrs. Wm. Woodward, John E. Yerbury, J. E. Still, F. H. Wrench, Walter Gordon, Geoffrey Norman, S. D. Topley, H. A. Welch, Herbert Shepherd, W. Alban Scott, M.S.A., T. Wallis, M.S.A., Ian MacAlister, Secretary;

and that the following gentlemen regretted their inability to accept the invitation:—

Messrs. H. B. Measures, F. B. Dunkerley, Gilbert Fraser, Sir William Emerson, and A. B. Burleigh.

It was therefore resolved that the following gentlemen be also invited to serve upon the Committee: Messrs. J. E. Still, F. H. Wrench, Walter Gordon, Geoffrey Norman, S. D. Topley, H. A. Welch, Herbert Shepherd, W. Alban Scott, M.S.A., and T. Wallis, M.S.A.

Name of Committee.—It was then resolved that the Committee be called "The Architects' War Committee."

Officers of the Committee.—It was resolved that the following members of the Committee be appointed as honorary officers: Chairman, Mr. Ernest Newton, A.R.A., F.R.I.B.A.; Vice-Chairmen, Mr. George Hubbard and Mr. Percy B. Tubbs; Hon. Secretary, Mr. C. Stanley Peach.

Work of the Committee.—The Secretary then submitted to the Committee the resolutions passed at the representative meeting of the profession on August 14.

The Acting-Chairman stated, on behalf of Mr. Newton, that the question of the use of the R.I.B.A. Galleries would be discussed at a meeting of the R.I.B.A. Council the same afternoon. He also read the following statement drafted by Mr. Newton:—

I hope to have an interview at an early date with Mr. Herbert Samuel, M.P., to discuss the question of the special employment of architects during the war. Mr. Samuel has already informed me that he will be glad to avail himself of our services if occasion arises.

With regard to Resolution No. 3, I propose this afternoon to ask the Council of the R.I.B.A. to make a substantial donation immediately to the Prince of Wales's Fund.

With regard to the distress which may arise in the profession owing to the war, I propose to summon a special meeting of the Architects' Benevolent Society Council to consider the situation, and, if it is found necessary, to send out a special appeal to the profession to contribute to a special War Relief Fund for the benefit of architects and those dependent upon them who may be in difficulties owing to the war.

Appointment of Executive and General Purposes Committee.—It was resolved that the following gentlemen be invited to act as an Executive and General Purposes Committee, with power to add to their numbers: Chairman, the President; Vice-Chairmen, Mr. George Hubbard and Mr. Percy B. Tubbs; Hon. Secretary, Mr. C. Stanley Peach; Messrs. H. V. Lanchester, J. Alfred Gotch, Maurice E. Webb, H. Chatfeild Clarke, Claude Ferrier, Edwin T. Hall, Sir A. Webb, W. E. Riley, Ralph Knott, L. Rome Guthrie, Paul Waterhouse, E. T. Richmond, H. M. Fletcher, and all the provincial members of the General Committee to act as correspondents for the Executive Committee, and that all suggestions received from architects and others with regard to the action to be taken by the profession should be referred in the first instance to this Committee for consideration.

The Acting-Chairman stated that it was proposed to ask the R.I.B.A. Council to afford all the necessary secretarial and clerical assistance to the Architects' War Committee and its Sub-Committees.

Resolution No. 1.—It was then resolved that the Executive and General Purposes Committee be instructed to draft and despatch to the Right Hon. J. Pease, M.P., who has been entrusted by the Cabinet with the duty of receiving all offers of assistance in connection with the war, a letter embodying the general offer of help expressed in the resolutions.

Resolution No. 2.—It was resolved that the following gentlemen be invited to act as a Selection Sub-Committee or Sub-Committees with power to add to their numbers:—Sir John Burnet, Sir Aston Webb, Mr. J. Alfred Gotch, Colonel F. S. Leslie, Mr. E. Guy Dawber, Mr. G. Leonard Elkington, Mr. Reginald Blomfield, Mr. Max Clarke, Mr. H. A. Welch, Mr. Sydney Perks, Mr. T. Edwin Cooper, Mr. Wm. Woodward, Mr. John E. Yerbury, Mr. Henry T. Hare, Mr. G. T. Hine, Mr. John Slater, Mr. R. Goulburn Lovell, Mr. Gerald C. Horsley, Mr. Alan E. Munby, and all the provincial members of the General Committee to act as correspondents for the Selection Sub-Committee, and that the following memorandum prepared by the Chairman be adopted as a basis for the work of this Sub-Committee which should report to the Executive and General Purposes Committee: This Sub-Committee would be asked to compile lists of architects with particulars of their qualifications so that we may be in a position to give useful information to the Government or to any of its departments in connection with emergencies arising out of the war. The Sub-Committee would also act as an information bureau to help young architects who are called out for service in the manner suggested by Resolution No. 2. In doing their work it would be largely guided by the advice and knowledge of the provincial members of the General Committee, who would be askd to act as its correspondents in dealing with applications from various districts.

Resolution No. 3.—It was resolved that the Executive and General Purposes Committee be instructed to open a subscription list to enable architects to contribute as a body to (*a*) the Prince of Wales's National Relief Fund, or (*b*) a special fund.

Benevolent Sub-Committee.—It was resolved that the following gentlemen be invited to act as a Benevolent Sub-Committee with power to add to their numbers:—Sir Robert Lorimer, Sir Alexander Stenning, Sir Ernest George, Sir Henry Tanner, Sir Thomas Jackson, Mr. A. W. S. Cross, Mr. H. W. Wills, Mr. H. Austen Hall, Mr. H. M. Fletcher, Mr E. C. P. Monson, Mr. Herbert Baker, Mr. Walter Cave, Mr. Thomas E. Collcutt, Mr. Edwin L. Lutyens, Mr. Leonard Stokes, and all provincial members of the General Committee to act as correspondents for the Benevolent Sub-Committee.

Military Training.—The Acting-Chairman stated that after consultation with the War Office the Architectural Association had decided for the present to take no action in regard to their military training proposals.

Executive and General Purposes Committee.—It was finally resolved that the Executive and General Purposes Committee be requested to consider the following points:—(*a*) The desirability of issuing to the profession or to the public an appeal to carry on building work to the utmost extent during the progress of the war. (*b*) The desirability of urging the Government to make arrangements to allow the railways to carry building materials.

[There seems to have arisen some misunderstanding with regard to the attitude of the Architects' War Committee towards the Prince of Wales's Relief Fund.

The intention of the Committee is, we understand, not simply to appeal to architects to send individual subscriptions to the Relief Fund, but to start a special architectural fund to receive contributions from architects, and then to send the money to the Fund as a collective donation from architects.—Ed.]

The Local Government Board have sanctioned, without the usual inquiry, the borrowing of £68,000 required for the proposed extension of the Lodge Moor Hospitals, Sheffield, for infectious diseases. The work is to be commenced at once. The City Hospitals Committee have decided that the quantities should be taken out as early as possible, so as to be able to proceed with the building.

The Metropolitan Asylums Board, at an emergency meeting held to take measures necessary in consequence of the war, have decided, in order to facilitate employment, to proceed forthwith with the execution of large building works to the value of nearly £200,000, for which tenders have already been taken, and to expedite the progress of other building schemes in hand.

The Council of the Institution of Civil Engineers of Ireland has, in compliance with suggestions communicated by the military authorities, decided to compile a list of its members—civil, mechanical, electrical—who may be considered as suitable and who would be willing to take employment either as "officers" or as "civilians"—(*a*) anywhere; (*b*) at home only. In due course the necessary form to be filled in will be issued to all members. Meanwhile information as to the duties likely to be undertaken may be obtained from P. F. Purcell, Hon. Secretary, 35 Dawson Street, Dublin.

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HAVERING AND THE LEGEND OF THE RING.*

By W. F. Habradence and T. G. Larkin.

Tradition has been termed the Handmaid of History, and in trying to trace the early story of the district north of the Thames, tradition alone comes to our aid.

Nennius states that he wrote his "Historia Britonum" in the year 858; that the island was first inhabited by the Silvans, a Roman tribe descended from Silvius Posthumus, and that it derives its name from Brut, who, landing with his followers, soon subdued the Silvans, and governed the island at the time that Eli, the High Priest, judged Israel, and the Ark of the Covenant was taken by a foreign people; and this, according to the computation of James Usher, Archbishop of Armagh, takes us back to the year 115[illegible] before the Christian era.

Geoffrey of Monmouth, who became Bishop of St. Asaph in 1152, translated or wrote his history in the first half of the twelfth century, and the full story of Brut or Brutus is given, and of the many Kings of Britain who succeeded him. Brutus came from Troy, and where London now stands he is stated to have formed his first important settlement, and he named it Troynova, or New Troy, and his descendants became known as the Trinovantes. John Leland gave absolute credence to the traditions; other learned men, including Sir John Price and Dr. John Caius, upheld them, and John Stow repeated them, though without perhaps full acceptance. These stories were held as authentic history by Church and State alike; and John de Wethamstede, who was elected Abbot of St. Albans in 1413, was practically the first to oppose them, and several seventeenth-century writers further questioned their truth; but however much we may be inclined to doubt them, owing to chronological inaccuracies, it must be borne in mind that the events narrated cannot be disproved. And as geologists tell us that on the south the Thames spread as far as Clapham Rise, and the flat lands on the north would be virtually inundated by the Thames and other rivers, it will be seen that the site chosen, with its several hills, would be a natural place of defence; and later the Romans realised the importance of the position, and took measures to preserve it; and that the site of London was a place of importance is obvious from the ancient British trackways that led to it. It may be mentioned that Mr. George F. Bosworth, possibly the latest writer on Essex, explains the name of Trinovantes, or Trinobantes, as battle-spearers or battle-stabbers.

Troynova, however, had one great disadvantage—it was not a hunting centre, and probably by slow degrees it was vacated; and ultimately the Trinobantian kingdom centred further north; but whether Camalodunum was at Colchester, Lexden, or Maldon remains a disputed point, though the chief evidence favours Colchester.

Like the early Brutus, Caius Julius Cæsar traced his descent from the Goddess Venus; and as this is the main cause of Brutus being regarded as an imaginary being, by the same reasoning Cæsar must also have been a myth. In his "De Bello Gallico" he tells of his invasions of Britain; and from Book IV., chapters xxviii. and xxix., we learn that four days after he came there was a full moon at night, and that a gale arose, otherwise a monsoon or periodical wind; and from these facts Edmund Halley, according to his own statement, proved by astronomical calculations that the day of Cæsar's landing, 55 B.C., coincides with the present August 26, and this is the first determined date we have in British history.

Of Cæsar's second coming, B.C. 54, he speaks in Book V., and from chapter xx. we learn that Immanuentius, Sovereign of the Trinobantes, had been slain by Cassivellaunus, and the rightful heir to the throne, Mandubratius, had fled to Cæsar, in Gaul, to ask his protection; and he returned to Britain with Cæsar. The British chieftains with whom Cassivellaunus had been in conflict, had now placed the whole conduct of the war in his hands. Cæsar crossed the Thames and entered the territory of Cassivellaunus, which then at least stretched down to the river, and as in the lesser skirmishes so in the later battles, he carried all before him. The Trinobantes now acknowledged Cæsar, and he restored Mandubratius to them as tributary King; and when the other tribes had surrendered Cæsar's last words relating to Britain are that he forbids and commands Cassivellaunus that he wage not war against Mandubratius or the Trinobantes. But he, or his clan did, and Tasciovan obtained the Trinobantian throne, and gave it to his son. Cunobeline—the Cymbeline of Shakespeare—and then followed his son Caractacus, whose royal city was the Trinobantian capital, Camalodune.

The Emperor Claudius arrived in A.D. 44, and in less than two weeks he took Camalodune, stationed soldiers there, and re-embarked for Rome; and when the four Roman Provinces were formed, about the year 296, this part of Britain was included in Flavia Cæsariensis.

Of the rule of the Romans it is not necessary to speak; in our arts and industries they have greatly aided us; even Friendly Societies were established by them, and much of the massive masonry they erected still stands as firmly as the everlasting hills. It may be stated, however, that in the Itinerary of Antoninus, compiled about the year 200, Durolitum is mentioned; and in the third route, as given by the nominal Richard of Cirencester, it appears as Durosito; and the Rev. William Stukeley associates it with the present Romford.

The Venerable Bede in Book I., chapter xv., mentions the coming of Hengist and Horsa; and the Anglo-Saxon Chronicle under date 455, says: Hengist obtained the kingdom. This kingdom was of the Cæntingas, or men of Cænt; and under Hengist it was of considerable extent, stretching along both sides of the Thames, and including the present Kent, part of Surrey, London, Middlesex, part of Hertfordshire, and the whole of Essex; and the northern part of the kingdom of Kent is still represented by North Woolwich. Hengist was succeeded by his son Æsc in 488, and his son Octa became King of Kent about the year 512. But they paid little attention to the district north of the Thames, and Saxon tribes began to arrive and make it their home; and seemingly among them was a chieftain named Hæfer, who with his tribe settled in the vicinity of Durolitum. Their numbers so increased that in 527 they crowned Æscwine as the first King of the East Saxons, and from East Seaxe the words were gradually modernised to East Saxe, Exsessa, and finally reduced to Essex.

On what may be termed the Saxon Peerage, Mr. William George Searle, M.A., is the sole authority; and from the result of his researches the names of the Kings of Essex are taken, and all who succeeded Æscwine were directly or indirectly descended from him. These were Sledda, and then Sæbeorht, nephew of Ethelbert of Kent. He re-edified St. Paul's Cathedral, and replaced the little church of St. Peter at Thorney, now Westminster, by a more imposing structure, and there he was buried and his tomb is still shown; and in his reign in 604 St. Augustine consecrated Mellitus as Bishop, with his cathedra or chair at St. Paul's. Then Sæbeorht's three sons, Seaxred, Sæweard, and Sigebeorht, seemingly partitioned Essex and reigned simultaneously. The kingdom was again united under Sigebeorht the Little, who was followed by Sigebeorht the Good and Swithhelm. Again the kingdom was divided, and Sigeheri and Sebbi reigned at the same time. Again two Kings, Sigeheard and Swæfred, reigned simultaneously; and they were succeeded by Offa, the son of Sigeheri, who, according to David Hume, had made a vow of chastity, and though married to Keneswitha, a Mercian Princess, he forsook his throne and Queen and became a monk, and so in a way the life of the Confessor was foreshadowed. Soon after Sclered had been crowned, Offa, the son of Thingfrith, stepped in, and Essex became part of the kingdom of Mercia, and later as tributary Kings Swithred, Sigeric, and Sigered succeeded, and then by Ecgbeorht of Mercia, Sigered was dethroned, and he was the last of the Kings of Essex. And so Mr. Searle has revealed the names of three kings unknown to the Rev. Philip Morant and other historians.

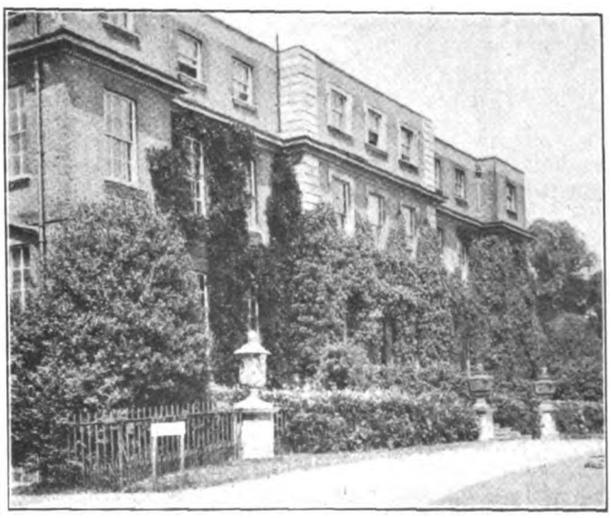
In 896 Ælfred the Great grounded the Danish fleet in Essex by diverting the course of the Lyge or Lea; and in 921 Eadweard, the elder, conquered Mercia, and so Essex became part of the kingdom of Wessex; in 938 Æthelstan was practically King of all England; and in 978 Æthelred the Unready became King; and Morant considers that he, or possibly an earlier King, had a palace or hunting lodge at Havering. In 1016 Canute had his decisive battle with Eadmund Ironside at Ashingdon, in Essex, and passing on to 1042 we reach Eadweard the Confessor.

He was born in 1004, and, as he records in a charter, his birthplace was Islip. He was the elder son of Æthelred

* A Paper read before the members of the Upper Norwood Athenæum.

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the Unready, by his second wife Ælfgifu, or Emma, the daughter of Duke Richard I. of Normandy. As a child he was placed in the monastery of St. Etheldreda and St. Peter at Ely, and there the teaching and example of the monks affected his whole after life. In 1013 Æthelred fled to Rouen, and Eadweard went with him, and at the Norman Court he virtually remained until 1040, when, at the invitation of Harthacnut, his half-brother, he returned to England, and two years later, when Harthacnut died, Eadweard was unanimously chosen king, and one of his



GIDEA HALL.

earliest acts was to abolish the tax of Danegelt, and to give to the poor the money that had been collected. By the advice of the Witan, he, in 1045, married Eadgyth, the beautiful daughter of Earl Godwine, a lady of avowed virtue; it was wholly against his wish, for while at Ely he had made a vow to lead a life of purity, and to the end of his days he kept the faith, and having confessed Christ crucified, he is called the Confessor; and although we seem to associate the term Confessor solely with Edward, there are several other saints so styled, among them St. Giles, St. Jerome, St. Leonard, St. Martin, and St. Hilary, whose name is familiar in Hilary Term.

When we remember that Edward had spent so many years of his life in the Norman Court, it is not surprising that when he had the power he should have honoured those who had honoured him, and that ecclesiastical and other offices should be given to Normans; that Norman nobles should surround him; that Norman-French should be the language of the Court; and that Norman architecture should be introduced into England; and thus it would seem he unintentionally paved the way for the Norman Conquest.

Edward consolidated the laws of Alfred, Athelstan, Edgar, and other Kings, commuting, where possible, the penalty of death; and throughout his reign wars and rumours of war were scarcely known. In furtherance of a vow made at Ghent, he rebuilt the Abbey at Westminster, and he re-erected the palace at Havering with the addition of a Royal Chapel. But though about 120 of Edward's charters or copies of them are extant, Havering is not mentioned, for the simple reason that he went there to rest and pray, and to hunt in the Royal forest of Hainault. By orthographic rules John Mitchell Kemble gives the Saxon spelling as Hæferingas, meaning the sons or men of Hæfer, a chieftain who had probably settled there; and with the members of the same tribe he associates the foundation of Haveringland in Norfolk, and Haveringham in Suffolk; and the Rev. Isaac Taylor adds Hauvringhen in France.

Some writers state that ere Edward was King, the touch of his hand had healed; and the Very Rev. Arthur Penrhyn Stanley tells of such a case having occurred during the rebuilding of the abbey, and people flocked to the King to be cured of their sores and swellings, and so touching for the King's Evil originated. Successive sovereigns claimed to receive a like power at their coronation, and the ceremony of touching continued until the time of Queen Anne, who touched little Samuel Johnson, who became the great lexicographer, and in her Prayer Book the Order of Service appeared for the last time.

There is every reason for supposing that Edward's Chapel Royal was consecrated by Archbishop Stigand, and it seems probable that the ceremony took place on December 27, 1064, the Festival of St. John the Evangelist. Edward was present, and as he passed out an aged mendicant asked him for alms, and the King, having no money, gave the ring off his finger. The same night in Syria two pilgrims were returning to Ludlow, and an aged pilgrim asked them to carry the ring back to King Edward, and to tell him that he had given it to John the Evangelist, in whose honour he had dedicated his church; and that in six months' time the King should be with him in Paradise. Such is the substance of the story told by William Caxton in his Golden Legends, and by many of the early English writers.

Goodwood and Leatherhead are stated to still have birdless groves, and in the Confessor's time there was one at Havering. A coloured window in Westminster Abbey shows his arms—the red cross of St. George quartered with nightingales, and with a fifth at the base; and William Camden, Clarenceux, in his Epitaphs, indicates its origin. Edward was at Havering, and when in prayer the notes of the nightingales caused his thoughts to stray, and he asked that their songs might cease, and never again did the songsters disturb him. This story, however, is scarcely consonant with the character of the Confessor, for surely he would have thought the song-birds were praising their Maker, as he was.

In 1060 he was present at the Hallowing of the Abbey of the Holy Cross at Waltham, which had been built by Harold, the Queen's brother; but while the preparations for the consecration of Westminster Abbey were in progress he was taken ill, and in public he wore his crown for the last time on the Feast of St. John the Evangelist, and on January 5, 1066, he passed away. The next day, with the sacred ring on his finger, he was buried in the Abbey of Christ and St. Peter, which he had rebuilt and



GIDEA HALL.

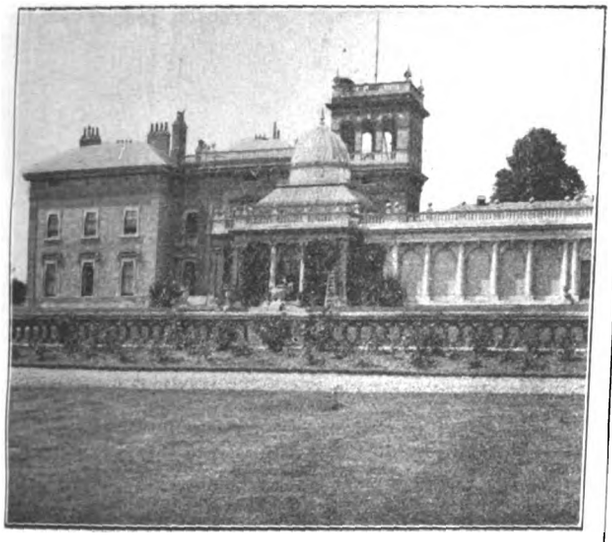
endowed; and the Undercroft and Chapel of the Pyx still tell of the grand, though simple, beauty of the first Norman church ever erected in England. Edward was described as having long white hair; but a swarthy complexion was termed black, and equally pale flaxen hair was called white, to distinguish it from the bright xanthic tint.

In 1140, when Gervase was Abbot of Westminster, Osbert de Clare, the Prior, went to Rome and pleaded without

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success to Innocent II. for the canonisation of Edward; but in 1161 Henry II. and Thomas à Becket procured it from Pope Alexander III., and on October 13, 1163, the saint's body was translated and the ring was removed from his finger. On October 13, 1269, the body was removed to its present position. The shrine was the work of Pietro, a Roman citizen, and on the twisted columns at the west end stood statues of the King and the Holy Pilgrim.

Pilgrims to the Holy Land brought back a scallop shell attached to their cap or other garment; it was a special species, and as the scallop shell is the symbol of St. James, it is technically termed the Pecten Jacobæus. The erection of shrines in England caused many pilgrimages to be made to them, and the monks increased their revenues by the sale of special badges. Probably the manufacture



PYRGO.

originated at Canterbury, in connection with the shrine of St. Thomas à Becket; but the monks of Westminster soon followed this wise example. The pilgrims' badges or signs, like the seal attached to a Papal Bull, were generally made of lead, though occasionally they were of pewter. Many of the badges that have been found in the Thames mud are to be seen in the Guildhall Museum, and eight are ascribed to King Edward; of one there can be no question--he is represented on horseback above the name Eadwarde.

The abbey screen was not added until the fifteenth century, and on the cornice in high relief are sculptured fourteen scenes from the life of the Confessor, three relating to the Legend of the Ring. It is also depicted on several thirteenth century tiles on the floor of the chapter-house; and here also are to be seen two of Edward's seals, and one of his charters confirming the grant of Peter's Pence to Rome, which had originated with Offa of Mercia. A wooden sedilia in the Presbytery has the story painted on it; it was seen in the Painted Chamber of Westminster Hall; it is painted on a spandril of St. Mary's, Faversham; and on a column in St. Albans Cathedral; and wall or panel portraits of Edward are stated to remain in four cathedrals and twenty parish churches. At Havering, Hornchurch, and Romford he is pictured in painted glass, and at Ludlow, the home of the returning pilgrims, the Story of the Ring is seen in the window of the church of St. Lawrence; and a memorial window to Edward VII. in Westminster Abbey again revives the Story of the Ring. At the coronation of Richard I. the sacred ring was used to wed him to his people, and it was used at successive coronations until Cromwell in 1642 ordered the crowns of Edward and Edith and the other baubles to be broken up; the ring, however, for safety, was stolen, and when the new regalia was being made for Charles II. it was restored and was again used; and to James II. it was presented after his coronation. James wore it until 1688, when he was attacked by Faversham fishermen, who stole the ring and other valuables from his person; and as the Rev. Joseph Hardwick Pemberton quotes, since then a special ring has been made for each sovereign; and it may be mentioned that the coronation office was not revised at the Reformation, and it is the only service in which the word altar remains.

From the Domesday Record as translated by Mr. Horace Round, M.A., we learn that Haveringæ, or Havelingæ, was in the Hundred of Beventreu or Becontree, and that it belonged to Harold; as a rule they term him Earl Harold, for the Normans never accounted him King; and the entry further states: To this manor belonged twenty acres in Lochetune, the present Loughton. No church is mentioned, but as the manor was royal property it is safe to assume that there was one, and that it is represented by St. Andrew, Hornchurch; and though we visited Hornchurch last year, it must again be mentioned, for in a charter of Henry II. it is called Havering Church. Mr. R. C. Fowles, M.A., states that about 1159 Henry II. founded a hospice there for the monks of St. Bernard, which later was known as Monasterium Cornutum; and he gave the church to them. Regarding the name Hornchurch, John Weever in 1631 told a quaint story, and various other suggestions as to its origin have since been made; but possibly the monks may have displayed a cornucopia to tell travellers and the poor that rest and refreshment could be obtained. John de Curia was the last Prior or Master, for his funds being exhausted, in 1389 he surrendered the priory and church to Richard II., and two years later they were bought by William of Wykeham, who granted them to New College, Oxford. To this day Hornchurch remains a chaplaincy, and the stipend rises or falls according to the fancy of the authorities. No induction ceremony ever takes place, and still the Vicar Temporal of Hornchurch has to pay £7 10s. annually to the Vicar of Havering atte Bower, but probably this payment will cease at the close of the present chaplaincy, when the Bishop of St. Albans will have power over the church.

Mr. W. Heneage Legge mentions an early name of Havering as Haverynge atte Bourne. The little river rises there, and Mr. H. G. Daniels states that in mediæval times it was called Merkedych; on its way to the Thames it passes through Romford, and is now known as the Rom. By the time of Edward II. Havering Palace had seemingly become dilapidated, and only a portion of it may have been restored, built of stone and leaded; and to this Royal Bower the King retired in 1377. Richard II. frequented it; and James Thorne, quoting from Hall's Chronicle, tells how Edward IV. feasted at Hauerynge at the Bower. In his early days Edward VI. was there, Queen Elizabeth was there in 1561 and in five later years, and James I. used it in the hunting season, and it is supposed that his son Prince Henry was there poisoned. Charles I. stayed there on his way to Harwich, and later the Bower



PYRGO.

became a ruin, and in 1827 only the foundations could be traced. Near to it an Italian villa was erected, known as Havering Park, now the residence of Mrs. McIntosh, the lady of the manor; and on the opposite side of the road stands a later Bower House, built for Sir John Baynes in 1729 by Henry Flitcroft, from designs by C. Bridgman. It is now in the occupation of Mr. John Taylor, M.I.C.E.

Pyrgo was built as a palace for the Queen's Consort, and formed part of their jointure; the "Howse" is first mentioned in 1226. Eleanor, Queen of Edward I., stayed there; Anne, Queen of Richard II., also occupied it; and Joan, Queen of Henry IV., died there in 1437. Elizabeth, in 1559, granted the palace to Sir John Grey, and by him she was there entertained. Pyrgo had its Royal Chapel,

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and in it Sir John Grey was buried. Morant mentions the later owners, among whom were Sir Thomas Cheke, Kt., whose second wife was Essex, daughter of Robert Earl of Harwich; and his son Thomas Cheke, Lieutenant of the Tower of London, whose first wife was Dorothy Sidney, daughter of Philip Earl of Leicester. In 1770 the palace was pulled down, and in 1852 the present Italian villa was built, and is now in the possession of Lord O'Hagan.

The present church of St. John the Evangelist, Havering atte Bower, occupied the site of the Confessor's Chapel Royal. It is of flint and white stone, and was built in 1877 in the Perpendicular style. It contains some of the memorials from the chapel at Pyrgo, but its most interesting feature is the bowl of the original Norman font, octagonal with an arcading of sixteen Norman arches; at one time it was brilliantly coloured, and particles of the paint still adhere to the Purbeck marble. The Vicar is the Rev. W. B. Russell Caley, M.A. The stocks and



CHANTRY HOUSE, ROMFORD.

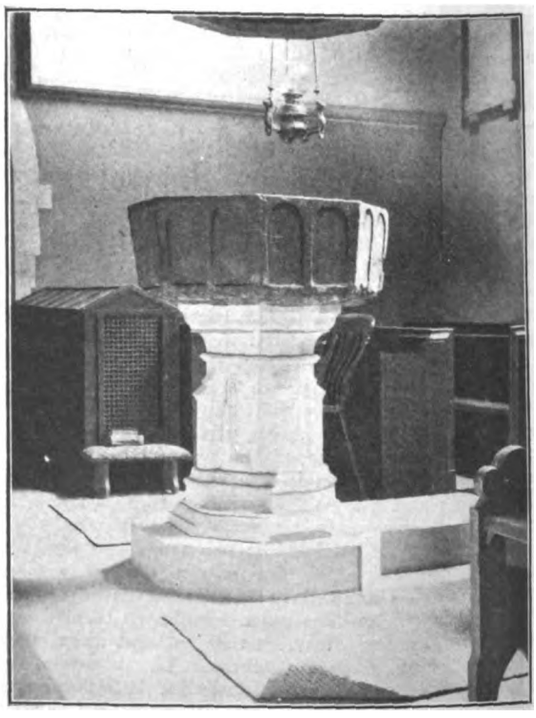
whipping-post still stand on the village green. Stocks of different form were an old mode of punishment; they are mentioned in Job, Proverbs, and Jeremiah, and in the Acts we read that the feet of Paul and Silas were made fast in the stocks.

Of the many suggested derivations of the name Romford, the simplest and most reasonable is the Roman Ford. The Brethren of St. Bernard built the first chapel there, and their right to it was confirmed by Pope Alexander III., in 1177, and George Meason says the site is still known as Old Church. In 1285 the Prior claimed view of Frankpledge and Gallows at Havering, and Edward I. granted the Charter; and with these rights or liberties the Liberty of Havering unquestionably originated; but not until 1465 did the Liberty obtain its first Charter from Edward IV., when its boundaries were defined, which included part of Stapleford Abbots. Romford was the capital of the Liberty, which was wholly independent of ecclesiastical or civil jurisdiction, and had a tribunal for life and death, and these rights only ceased in 1892. About 1407 Henry IV. sanctioned the removal of the chapel to the common, and allowed the oaks felled to be used in its construction. It was dedicated in honour of the Blessed Virgin Mary and St. Edward the Confessor, and on the south wall was painted the Story of the Ring. In 1410 Pope Alexander V. granted sepulture at Romford instead of the enforced conveyance of the dead to Hornchurch. The church remained until 1849, and the new church built in the Middle Pointed style from designs by J. Johnson was consecrated in 1850. In the porch is a memorial to Sir Nicholas Hervey, 1605, who was Lieutenant of the Tower, and another with effigy to Anne Carew, his daughter; and on the north wall in carved alabaster are kneeling effigies to Sir Anthony Cooke, preceptor to Edward VI., and his wife; their daughter Anne married Sir Nicholas Bacon, Keeper of the Great Seal, and became the mother of Lord Bacon of Verulam.



CHANTRY HOUSE, ROMFORD.

Adjoining the church still stands the pre-Reformation Chantry House, an interesting timber structure built in the time of Henry VII. For more than three centuries it had been the Cock and Bell Inn, but in 1909 it was re-acquired for the use of the church, and at the same time the



FONT, HAVERING-ATTE-BOWER.

spacious hall in the rear was erected in memory of William of Wykeham. The present vicar is the Rev. G. M. Bell, M.A.

While at Havering in 1568 Queen Elizabeth became the guest of Sir Anthony Cooke at Gidea Hall, and Marie de

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Medicis lodged there one night in 1638. The Hall, after various ownerships, was pulled down about 1720, and the present mansion was erected, which was later partly reconstructed by the Brothers Adam. It has recently passed into the possession of the Gidea Park Club, though Mr. Henry Hollabone, J.P., still retains several of the beautiful rooms as his private residence. Part of the old Tudor house designed by John Thorpe remains in the courtyard.

In the story of Havering fact and fable seem to go hand in hand; yet to our forefathers it was wholly true, and if in these days our faith were as firm as theirs, our hearts might be the happier; but even now after more than eight centuries have elapsed the Legend of the Ring still lives.

In addition to the authors mentioned, works by the following writers have been consulted: The Rev. W. Gunn, Rev. J. A. Giles, Benjamin Thorpe, Rev. Edward Conybeare, Rev. Mackenzie Walcott, Rev. Havilland Chepmell, Rev. W. Hunt, Rev. Baring Gould, A. Streeter, C. E. Keyser, and Miller Christy.

The illustrations are from photographs kindly taken by Mr. Thomas H. Weise.

THE PROTRUDING OF PARTY WALLS.

Nor only is the party wall projecting above the roof an architectural eyesore, but it also increases both first cost and maintenance of house property, and by the decision of the Sanitary Committee of the Bristol Corporation to ignore their own by-laws they have given a useful lead to other authorities. Under the Improvement Act Bristol possesses special local powers, and by enforcing one provision of that measure the civic authorities have hitherto required each house to be divided from its neighbour by carrying up the party wall above the tiles or slates. In future these projecting walls or parapets will not be insisted upon. The matter arose on the following report read by the clerk, Mr. Wise:—

"With reference to the housing scheme now being considered by the Housing of the Working Classes Sub-Committee, drawings have been submitted by the City Valuer in which parapet walls (required under Section 35 of the Bristol Improvement Act) have been omitted, and the attention of the Sub-Committee has been called to this, and a statement made that, if the Sanitary and Improvement Committee insist on the provision of these parapet walls, the cost of *building at Parson* Street, where it is proposed to build 136 houses, would be increased by £800, and at Stapleton Road, where the number proposed is 115, by £450. In November 1904 the Bristol Society of Architects petitioned your Committee to repeal the clause in the Improvement Act referred to above, and in February 1905 the late City Engineer reported the results of inquiries he had made on this subject from 39 local authorities of the largest towns in England, which showed there was a growing tendency to omit parapets on domestic buildings under 35 ft. in height, but to require them on warehouses and factories, and he recommended that clause 35 should be so amended as to read, after the word 'building':—

"'And it be enacted that all separate side walls or party walls shall be well and closely lined up to the underside of the slates upon the roofs of the buildings, and that in all domestic buildings under 35 ft. in height the slates, tiles or other incombustible roof covering shall be properly and solidly bedded in mortar or cement on the top of such wall; but as to domestic buildings 35 ft. and upwards in height, and as to all public buildings, chapels, places of worship, breweries, distilleries, manufactories and warehouses, proper parapets of the height and thickness as specified for party walls shall be built on such side walls or party walls.'"

Your Committee, however, decided that it was not desirable to go to Parliament for powers to amend the Improvement Act. Rough elevations have been supplied by the City Valuer, but before going further the Sub-Committee ask for your Committee's decision on the point. Your Engineer sees no great objection to the omission of the parapet walls, provided the party walls are carried right up to the underside of the tiles, but, of course, if this is allowed in the present case it will be very difficult for your Committee to enforce their provision in the case of private buildings."

The Chairman of the Committee (Alderman Lloyd) asked Mr. Wise to explain the legal position.

Mr. Wise said he did not recommend the Committee, if they thought these parapets should be done away with, to attempt to get the Bristol Improvement Act altered in Parliament. That was a question they had considered on many occasions, but, owing to the fact that powers were given by that Act which would not now probably be granted, the effect of going to Parliament to do away with one provision would be that their powers in other directions would be taken away. He thought, however, they need not let the provision stand in the way. If the conclusion, as a matter of policy, was that these parapets should not be required in cases of buildings of small height, treating everyone and the public alike, he thought they might waive the provision.

Mr. Coole said he was greatly in favour of the suggestion that the parapets should not be insisted upon. For years in St. George they did not enforce them, but when St. George was brought into Bristol in 1897 new houses were required to have these walls carried up. He hoped if they did anything at all it would not be for a particular committee, but for the public at large.

The Chairman said he could not conceive they would favour a committee of the Council and not the general public. If they consented to this, builders must know and must be allowed to do exactly what they were doing as a Corporation.

Mr. King asked if the change proposed was not better for the tenant?

The Chairman: You could not have a better authority than Mr. Coole.

Mr. Coole replied that the houses were better without the parapets, there being less liability to leakages.

The Sheriff (Mr. Cottam Castle) suggested that parapets had an advantage in case of fire.

Mr. Forestier Walker said it was unquestionably a fact that insisting on the erection of these parapet walls prevented hundreds of houses going up at Avonmouth. The extra walls made a difference to the builders, and prevented houses being erected.

Mr. Thorne gave it as his experience that there was less trouble of leakage without parapets.

Mr. Dowling supported the proposal to omit parapets, providing the tiles came down on the wall.

The Chairman remarked that the tiles or slates would have to be cemented to the top of the wall.

Mr. Coole moved that the construction of these walls be not insisted on.

Mr. Maggs seconded this. He asked, seeing the Committee were so unanimous about this thing, was it not strange the thing should have been allowed to go on so long?

The Chairman: We grow in knowledge. You agree with what the late Engineer recommended, that this exemption should apply to domestic houses of a certain height, while power is still retained to deal with factories and other buildings of large height.

The resolution, framed on the lines suggested by the Chairman, was unanimously carried.

THE LATE A. C. BULMER BOOTH.

ARTHUR CHARLES BULMER BOOTH, A.R.I.B.A., whose death occurred on July 17 at the age of seventy, was for many years a partner in the late firm of Hudson & Booth, of Godliman Street, E.C., one of the oldest firms of architects and surveyors in the City of London.

Mr. Booth was a pupil of the late Joseph Springbolt, and afterwards entered the office of the late Professor Aitchison, B.A., R.A., as assistant, where he remained until he joined Mr. William Hudson, who was at that time enjoying an extensive practice in the City. Later Mr. Booth became a partner of the firm with Mr. Hudson, jun., the practice being carried on under the title of Hudson, Son & Booth until the death of Mr. William Hudson, after which it was continued by the remaining partners, and subsequently by Mr. Booth alone, at 113 Queen Victoria Street, E.C.

Mr. Booth was elected an Associate of the Royal Institute of British Architects in 1881, and was well known amongst his contemporaries, serving for many years on the various committees connected with the Institute's work.

He was also one of the oldest members of the Architectural Association, having joined that body in 1863. In these early days he took an active part in the work and organisation of the Society, acting as visitor to the classes, &c., and, having a good tenor voice, he joined heartily in the old Association plays and soirées.

In the early days of his practice he carried out a considerable amount of domestic work, and after his partnership with Mr. Hudson became responsible for most of the architectural side of the firm's work, Mr. Hudson, jun., attending to the surveying and valuing branches of the business.

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Owing to the cutting of Queen Victoria Street in 1870, several of Wren's churches were interfered with by the removal of old property abutting upon them, and the firm being at that time surveyors to the parishes of St. Nicholas, Cole Abbey, St. Benet, Paul's Wharf, and St. Andrew-by-the-Wardrobe, they were instructed to make the necessary alterations and improvements. The most extensive work was required to the churches of St. Nicholas and St. Andrew, entirely new fronts to the new street being necessary, and in addition, at a later date, a new organ gallery was erected at St. Nicholas, while the interiors of St. Benet, Paul's Wharf, and St. Andrew's were remodelled to a considerable extent to meet modern requirements. These alterations were most carefully carried through by Mr. Booth, the old work being carefully preserved and used wherever possible, while the continuity of Wren's design was maintained in the new work.

The practice of the firm embraced building works of almost every character, both in the City and suburbs of London, and a few of the most important works entrusted to the firm during the last thirty years are: Business premises, 66 Great Titchfield Street; alterations to Lyceum Theatre; Rochester Buildings, Leadenhall Street; warehouses, 56 and 57 Upper Thames Street, E.C.; residence for E. F. Hilton, Esq., Balham; 111 High Street, Marylebone; warehouse, Upper Thames Street, E.C.; factory for the London Liquid Carbons and Acid Gas Co.; warehouse and showrooms, Upper Thames Street, for Henry O'Brien, Esq. (*first* section); Mullens' Hotel, Ironmonger Lane; warehouse and offices for Messrs. Blundel, Spence & Co., Upper Thames Street; No. 10 Clifford Street, W.; No. 8 Broadway, Ludgate Hill; addition to Paul's bonded warehouses, Upper Thames Street; business premises, Whitfield Street, Tottenham Court Road; showrooms and offices, Upper Thames Street, for Henry O'Brien, Esq. (second section); office building, 31 and 32 Crutched Friars; Farrow's Bank, 1 Cheapside, E.C.; alterations and additions to 111 and 113 Queen Victoria Street, E.C.; offices of the *Financial News*.

Just before his death Mr. Booth had taken into partnership his chief assistant, Mr. G. Morriss Viner, Licentiate R.I.B.A., and the practice will be continued by him at 113 Queen Victoria Street.

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. Francis Bumpus.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

THE RENAISSANCE.

(Continued from last week.)

Some of the finest works in the Italian Renaissance have been produced by architects whose names are unknown; but it is essential to the success of an undertaking that the architect should be heartily supported by the workmen and others acting in concert with him. It is questionable whether any great result has been achieved which was not due in some measure to others besides the leading spirit.

The writer has been frequently asked whether the architects who were invited into France by the kings founded any definite school of their own; and without pretending to have mastered the subject, he has ventured to express the opinion that it was probable they founded schools as teachers of their style, but not as architects. In almost every instance, except perhaps the Louvre, the person responsible for the work was a Frenchman. Serlio was invited by Louis XII. to prepare designs for the building of the Louvre, but Lescot was the recognised architect; the style, however, indicates that Serlio had much to do with the work.

The question whether the Gothic of France reacted upon the Italian is perhaps easier to answer. That it did so in the earlier periods there are many proofs, such as the cathedral at Lucca; but at a later date Italy was so bent on the revival of the Classical as to take but little heed of the Gothic. The influence of literature on the Renaissance was remarkable, Dante, Boccaccio, and Petrarch having, as already mentioned, worked in that direction. At the best period of the art in Italy works were carried out with wonderful harmony contemporaneously, the great architects being also artists and sculptors. Whether the finer works of the Renaissance school can rank with others is a question: they may not rank with the Greek, but they might with the Roman, as nothing remarkable was produced by that school after the Augustine era. The practical use of the Renaissance is a question of much too grave import to be discussed within these limits; suffice it to say that it is a style which, if properly treated, is capable of the very greatest success whether in ecclesiastical or secular work.

The charm and fascination of this extraordinary period in the intellectual history of mankind have tempted one student after another to try to get at the heart of the mystery; to learn all about its art and its literature, and to endeavour to realise how the men of that time really thought and felt, and what was the origin and meaning of that effervescence of artistic enthusiasm and inventive power which subordinated every other consideration to the one aim of producing beautiful work, whether in architecture or in the arts auxiliary to it.

In England, as elsewhere, the spirit of the Renaissance seems to have been a reaction from the asceticism of the Middle Ages—an awakening, so to speak, of the liberty of thought and speech and action from the thraldom of mediævalism and all its works—a glorification of the culture and intellect of humanity as opposed to sacerdotalism of any and every kind.

The causes that led to the results at home can only be briefly referred to here. They were the revival of Classical literature, the Reformation, the advancement of general education by the development of the printing press, the more settled state of the Governments of Europe, and the consequently greater facilities of travel. Then, again, local causes influenced the movement with varying force in the different centres of civilisation: in Italy, the birthplace of the Renaissance, and notably in Rome, the existence of the remains of the great works of the Classic ages; in England, the spirit of independence and enterprise which in after years was to raise her to a foremost place among the nations of the world, and which had already in the sixteenth century enabled her to resist successfully all attempts at foreign domination by popes and kings, and laid the foundations of that national freedom which ever since has been her proudest boast.

It is doubtful, however, whether, even in the later Hanoverian epoch, when the more important buildings and their ornamentation consisted in the most absurd and meaningless reproductions or caricatures of Greek and Roman art, the Gothic style ever had fallen entirely into disuse in ecclesiastical buildings. The Gothic tradition remained strong in them long after the Renaissance had established its sway over secular work. The few ecclesiastical buildings which we possess of the latter half of the sixteenth century and the beginning of the succeeding one are Gothic in their general forms, though more or less Italianised in their details. The reaction against Protestantism in the reign of Charles I. seems to have given a stimulus to church-building; but it does not appear that any Gothic revival took place at that time, as is commonly said, for no churches had been erected previously in any other style. St. Catherine Cree Church in Leadenhall Street, London, has late Gothic aisle and clerestory windows, a large eastern window composed of five lights surmounted by a rose, in imitation probably of the great eastern window in Old St. Paul's, and a Gothic vault; but the pilasters which support it are Classical, and so is the really beautiful arcade of Corinthian columns and semi-circular arches, which would appear to have been greatly influenced by those in certain Italian churches of the first phase of the Renaissance, notably San Matteo at Genoa, and Santi Lorenzo and Spirito at Florence. After the Great Fire of 1666 several of the City churches were rebuilt, wholly or in part, by Wren in the Perpendicular style, and, on the whole, notwithstanding many solecisms of detail, may be regarded with pleasure, as remarkable manifestations of that lingering love for the old Pointed forms among ourselves, especially the noble pinnacled tower of St. Michael's, Cornhill, and the interiors of St. Alban, Wood Street, and St. Mary Aldermary. But from that time, owing to the influence of Wren and his pupils and followers, Gibbs, Hawksmoor, and Flitcroft, Italian, with certain modifications, became the prevailing style for churches, as well as all other buildings. Still, throughout the eighteenth century attempts were occasionally made to copy the forms of Gothic architecture, one of the most ambitious being Wyatt's triforium, clerestory, and groined roof in the nave of Hereford Cathedral. With the latter part of the reign of George III. the tide began to turn, and, among the large number of churches built in London and provincial towns, chiefly under the auspices of the "Million Act," are many in a style which at that period passed for very satisfactory specimens of Gothic. But in the majority of these late Hanoverian

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churches their architects, with a very few exceptions, committed the fatal mistake of employing the several orders of Greek architecture, instead of going for inspiration to the forms of the Italian Renaissance which had been moulded by the plastic hands of Wren, Gibbs, and Fliteroft into such beauty. A Grecian Doric or fluted Ionic portico, however noble and faultless in its details and proportions, with a steeple riding upon its summit, and, behind it, nothing but a brick carcase, pierced with two tiers of windows glazed in small panes, was a manifest absurdity, and the two, as might have been expected, broke down from incompatibility of temper, to say nothing of the inappropriateness of employing a purely Pagan style for ecclesiastical purposes.

Even if the series of buildings which show the lingering love of our forefathers for the old Pointed forms were much less complete, it would not be difficult to show that the cathedral and the old village church were, in this country, always the popular ideal of ecclesiastical architecture.

In France the Gothic tradition was much more completely broken. In churches built at the end of the sixteenth century there is little left of Gothic character, except the general arrangement of plan and section. These were swept away by the Classical affectations of the Louis XIV.-XVI. epoch. Consequently, there are no signs of the gradual return to mediæval forms which we find in England in the earlier part of the last century. The French, following the example of the English, revived the use of Gothic architecture during the reign of Louis Philippe (1830-48), but it has never become, with them, to be regarded as the only ecclesiastical style as until within the last quarter of a century it has in England, since when a growing study of the Renaissance has given quite a new aspect to our ecclesiology. Previously it was very seldom that an architect ventured to design a church which was not founded upon the architectural models of the Middle Ages, a general acceptance which seemed to show that those models might be adapted to the wants and ideas of modern times. The Church is the same now as it was in the Middle Ages, though the services have been altered in some of their details. The religious revival of the last century went far towards removing the corruptions which had crept into the Church during the eighteenth—the period of the ascendency of Italian architecture in our churches—and it was natural that the architectural innovation should have gone with the others.

Gothic in Italy, though it had produced many wonderful works, was always more or less of an exotic; its true home was among the Teutonic races of the north and west. The Renaissance to the Italians was in the main but a return to the traditions of their national art.

It is little wonder, then, that the transition from the study of Classic literature to Classic architecture was short and easy. The hour had come, and, following with the swiftness of cause and effect, came also the men.

The Renaissance implies not the revival of antique art only, but the return to that great school which Nature ever keeps open to us. Thus, the love of Nature with the first great Renaissance artists became a passion, and was the basis of their style. It is this which gives such a wonderful charm to the works of that illustrious triad, Ghiberti, Donatello, and Luca della Robbia, who, imbued with the true spirit of the antique and an unusual sense of the beautiful, ennobled all, even the commonest objects which came from their hands.

To the Renaissance artists of the fifteenth century we are indebted for the universal application of these two principles, although it is possible to trace step by step the gradations which led from the early Renaissance style to that adopted by the Italian artists of the sixteenth century.

A remarkable feature in the Renaissance artists was their combination of the talents of sculptor and architect, executant and designer, from which cause figures, foliage and conventional ornaments were so happily blended with mouldings and other structural forms as to convey the idea that the whole sprang to life in one perfect form in the mind of the artist.

It is almost impossible within these limits to do justice to the number of illustrious names which crowd upon the memory at this epoch, and the writer can, therefore, only dwell briefly on the works of the architects of the fifteenth and sixteenth centuries, and the motives which actuated their authors to produce works which increase in interest the more closely they are studied, and compel us to offer our tribute of respect to the energy of mind and purity of thought as exhibited in them.

Some may take exception at the over-elaboration of detail and to the naturalistic treatment of ornament in late Renaissance works, yet we may discover in nearly all instances a freedom of design which, in earlier times, and especially during the Middle Ages, was often cramped and fettered by ideas which emanated from the seclusion of the cloister and the austerity of monastic life.

(To be continued.)

NOTES ON BOOKS.

"Lectures on Housing." By B. S. Rowntree and A. C. Pigou, M.A. (Manchester: University Press.)

TWENTY-SEVEN years ago died Alderman Warburton (of Manchester), and his will revealed a trust, under the provisions of which the above lectures on housing were delivered at the University on November 27 and January 19 last respectively. Mr. B. Seebohm Rowntree's subject was voluminously entitled "How Far it is Possible to Provide Satisfactory Houses for the Working Classes at Rents which they can afford to Pay?" Mr. A. C. Pigou's subject was "Some Aspects of the Housing Problem." The excessive capitalising in the first title is perhaps typical of the standpoint assumed by the lecturer, whose ideas seem to us to be tinged—even deeply coloured, in fact, by sociological bias or prejudice—call it whichever one pleases. Statements of fact are, of course, desirable, such as the proportionate occupation of sub-four room houses, proportionate "overcrowding," &c. And the excessive burden of house rent needs not to be disputed. But the lecturer has set his camera out of focus; the class that is worst hit at the present day is neither the lowest nor the highest, but the middle-class, which includes, indeed, the real workers, who are ground exceeding small and none too slowly. The so-called "working-class" is not in that state of poverty which Mr. Rowntree claims for it. And the question of house building is not necessarily one of demand, creating or failing to create supply, but too often proves to be that of supply and demand—by no means a beautiful or beneficent arrangement, as carried into execution. It would be more to the point, too, for the lecturer to recognise that the proletariat creates its own slums to a large extent. We see no objection to taxation of land values, if such can be fairly ascertained; but, of course, if the aim and end is to be land-nationalisation the present policy of penalising landowners is comprehensible.

Mr. Pigou, in his lecture, pursues a much more reasonable line of argument. He frankly recognises that it is far less the poverty than the ignorance of the proletariat which retards reform. He points out that "it is the duty of a civilised State to lay down certain minimum conditions in every department of life below which it refuses to allow any of its free citizens to fall." Mr. Pigou lays stress upon the necessity of applying this to the standard of housing, not alone individually in the room and the house, but also in the collection and grouping of houses. But with all and through all, the lecturer evidently aims at the proper education of the "working-class" on the lines of intelligent comprehension of hygiene and sanitation. It is a thoughtful and judicious lecture, well worthy perusal.

"Early Renaissance Architecture in England." An historical and descriptive account of the Tudor, Elizabethan, and Jacobean periods, 1500-1625. For the use of students and others. By J. Alfred Gotch, F.S.A., author of "Architecture of the Renaissance in England," "The Growth of the English House," &c. Second edition revised, with over three hundred illustrations from photographs and drawings. (London: B. T. Batsford, Ltd. 15*s.* net.)

THE recognition that has been rightly accorded to the value of Mr. Gotch's smaller work on Early English Renaissance ensures the success of the second edition, the more so that the price is now reduced by the publishers. Although the bulk of the book has also been slightly reduced, this has been effected without injury to the clearness of the exposition of the change which took place in our English architecture during the sixteenth and the first half of the seventeenth century particularly in our domestic buildings. The development of plan that was required by the increased desire for comfort and the changes in the manner of living and the influence on detail exerted by the introduction of the revived classic sentiment from the Continent are well set out and explained by the author. Very interesting is it to trace the very gradual and tentative manner in which these changes took place; the yielding of place by

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irregularity and asymmetry to a more formal ordinance resulting in greater stateliness of expression without diminution during the period under review of picturesqueness. Amongst the not least interesting features of the book happily retained is the chapter on sixteenth-century house-planning as illustrated by John Thorpe's drawings. Nor must we forget to mention the fine collection of illustrations from both photographs and drawings that make the book both interesting and valuable.

"The Law of Building, Engineering, and Ship-building Contracts and the Duties and Liabilities of Engineers, Architects, Surveyors, and Valuers; with Reports of Cases and Precedents." By Alfred A. Hudson, of the Inner Temple and the Western Circuit, one of his Majesty's Counsel, &c., assisted by C. S. Rewcastle, B.A., LL.B., of the Inner Temple and the North-Eastern Circuit, Barrister-at-Law. Fourth edition. (London: Sweet & Maxwell, Ltd. Toronto, Canada: The Carswell Company, Ltd. 63s.)

We are told in the preface that "this work has received the greatest amount of revision of any edition since the first publication of the book in March 1891, and some of the chapters have been entirely re-written." Law, however, may be regarded as a progressive science and to be of value new editions of standard works are imperative. It would perhaps be incorrect to say that the law has altered, but it has been the subject of many judicial decisions, more particularly in recent years, throwing new light on matters of the highest importance to those connected with engineering and building. "Hudson on Contracts" is a standard work, and the appearance of a new edition makes an opportunity for every architect, builder, and engineer to add an absolutely necessary volume to his library. The recent tendency of the courts, and of clients, to regard more strictly the obligations of professional men to their clients renders imperative a careful study of the chapter on the "Duties and Liabilities of Architects and Engineers," whilst the view of an eminent counsel like Mr. Hudson on their remuneration should be of special interest now that the R.I.B.A. is engaged very slowly—on revising its schedule of charges. A useful section of the work is the collection of precedents and forms of contract or agreements.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

Berkshire.

Reading.—Tuberculosis Hospital. Messrs. Charles Smith & Son, F.R.I.B.A., architects, 164 Friar Street.

Thatcham.—Six workmen's cottages. Messrs. Tubbs, Messer & Poulter, architects, Bank Chambers, Market Square, Newbury.

Cornwall.

Camborne.—Thirty-six houses, North Roskear. Mr. S. J. Pengelley, builder, Tuckingmill, Camborne.

Penzance.—Cinema Theatre, the Market Place. Messrs. Cowell & Drewitt, architects.

Derbyshire.

Chesterfield.—The Station Hotel. Alterations for the Chesterfield Brewery Co.

Shardlow.—Workhouse Infirmary (£6,250) and master's house (£650); also alterations at the Grove (£750).

Devon.

Paignton. — Isolation Hospital: proposed extension (£2,600).

Plympton.—Workhouse: Infirmary extension (£3,000).

Durham.

Coxhoe.—Two houses, for Messrs. Thompson & Dennison.

Darlington.—House, Linden Avenue, for Mr. T. Boyd.

House, Bracken Road, for Mr. J. E. Chilton.

House, Askendale Street, for Messrs. J. Dickinson & Son.

No. 65 Upper Victoria Street: additions. Messrs. Clark & Moscrop, FF.R.I.B.A., Feethams.

Warehouse, Orchard Road, for Mr. J. G. Critchley.

Hetton. Twelve aged miners' homes, near Springwell Terrace.

Masonic Hall: alterations.

Neville's Cross.—House, for Mr. R. H. Ward.

New Herrington.—Institute, for the Rev. R. E. Parr.

Quarrington Hill.—House, for Messrs. Thompson & Dennison.

Shotton Colliery.—Stores: additions, for the Sherburn Hill Co-operative Society, Ltd. Messrs. J. W. Taylor (F.R.I.B.A.) & Son, architects, St. John Street, Newcastle-on-Tyne.

Essex.

Braintree. Four cottages severally at Blackwater and Rayne (£1,300 in all), for R.D.C.

West Thurrock.—Fourteen cottages, for Orsett R.D.C. Mr. F. J. Winter, architect, 2 Heygate Avenue, Southend-on-Sea.

Hampshire.

Bournemouth.—W.M. Hall, Holdenhurst Road.

Hertfordshire.

Much Hadham.—Parish Hall, Furneux Pelham.

Kent.

Hildenborough.—Twelve cottages, for Tonbridge R.D.C.

Lancashire.

Accrington. Proposed Fire Station, Manchester Road.

Eight houses, Queen's Road, for Mr. E. Dixon.

Bolton. Fifteen houses, Florence Avenue, for Mr. P. W. Emery.

Two houses, Bentley Street, for Mr. Eckersall.

Four villas, Green Lane, for Messrs. Cryer & Winkley.

Farnworth.—Two houses, Highfield Road, for Mr. W. Brooks.

Irlam. New premises, for Cadishead Conservative Club.

Rochdale.—Council School, King's Road, Lower Place (£9,500).

Lincolnshire.

Ashby.—Council School for 400 girls.

Boston.—Workhouse: additions. Mr. F. Parker, architect, 7 Pump Square.

Bracebridge Heath.—Council School: additions and alterations. Mr. F. W. Horton, contractor, Shakespeare Street, Lincoln.

Brigg.—Girls' Council School.

Broughton.—Infants' Council School.

Lincoln.—Temporary Grammar School. Messrs. Watkins & Son, R.I.B.A., architects, St. Edmond's Chambers, Silver Street.

Nocton.—Council School: alterations. Messrs. Dawson & Marks, contractors (£681).

Middlesex.

Hendon.—Church, Flower Lane, Mill Hill (first portion, £4,500). Mr. J. S. Alder, architect, 1 Arundel Street, Strand, London.

Sunbury.—Council School for 400 places.

Monmouthshire.

Tredegar.—Fire Station. Mr. W. E. Jones, architect, 1 Commercial Street.

Nottinghamshire.

Nottingham.—Presbyterian Church, Noel Street.

Somerset.

Hallatrow.—Church.

Taunton.—Isolation Hospital: tuberculosis pavilion.

Two houses, Staplegrove Road, for Messrs. Adams & Paul.

Staffordshire.

Cannock.—Police headquarters, Wolverhampton Street.

Lichfield.—Gaia Field House: additions and alterations, for Mr. G. S. Russell.

Wednesbury.—Church School: additional one hundred places.

Surrey.

Hindhead.—St. Alban's Church: second portion (£1,800).

Oxted.—Council School, Merle Common: additional one hundred places.

Sussex.

Chichester.—Council Offices (£15,000).

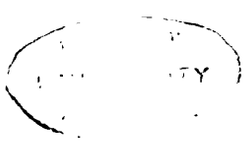
Horsham.—Proposed Guardians' Children's Home, Bedford Road. Messrs. Wheeler & Goodman, R.I.B.A., architects, Bank Chambers.

"The Bungalow," St. Leonard's Road: additions and alterations, for Messrs. Hoad & Taylor.

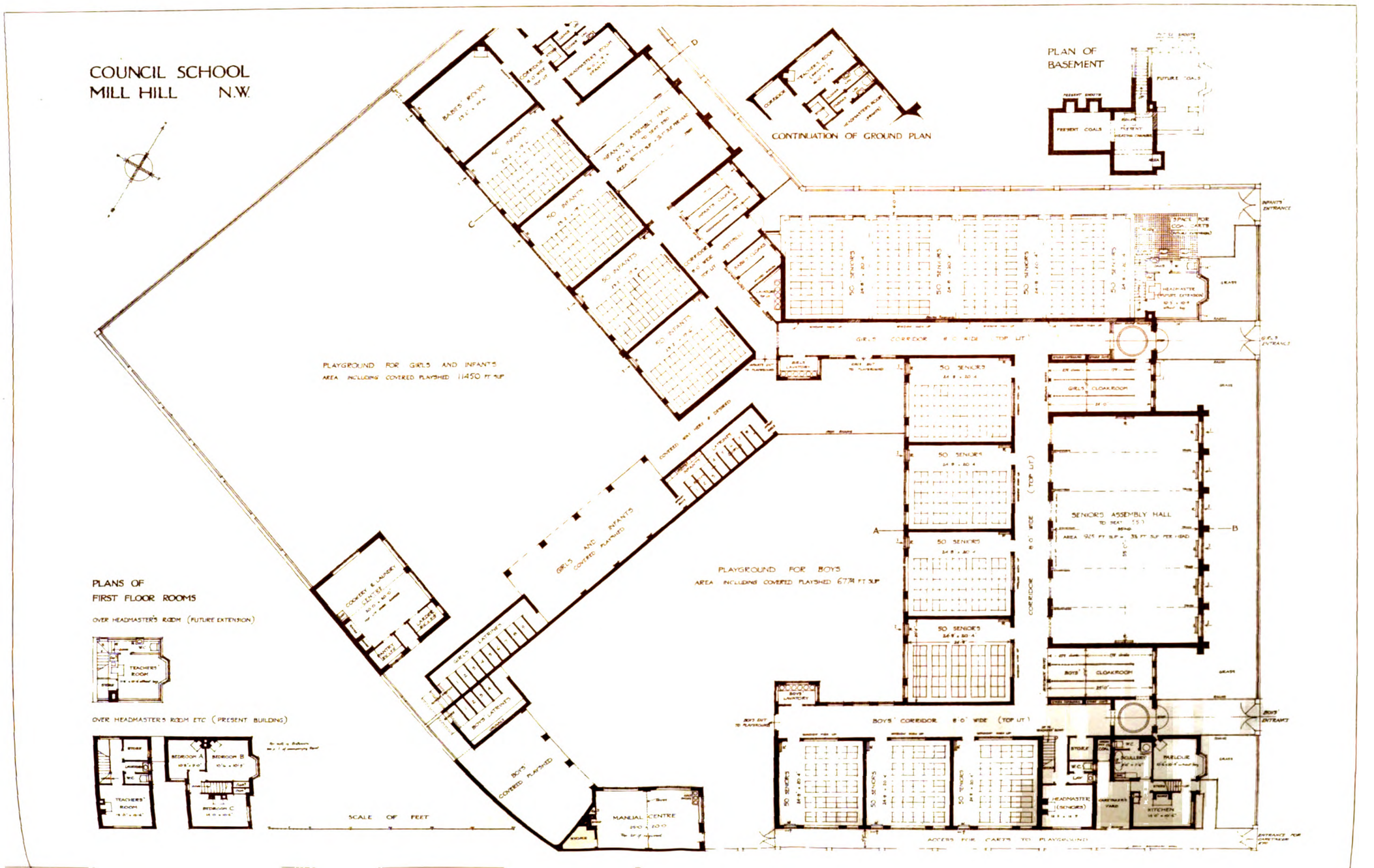
"Craven Lodge," Wimblehurst Road: additions and alterations. Mr. G. Potter, builder, London Road.

New premises, The Bishopric and Worthing Road, for Messrs. Rice & Stanford.

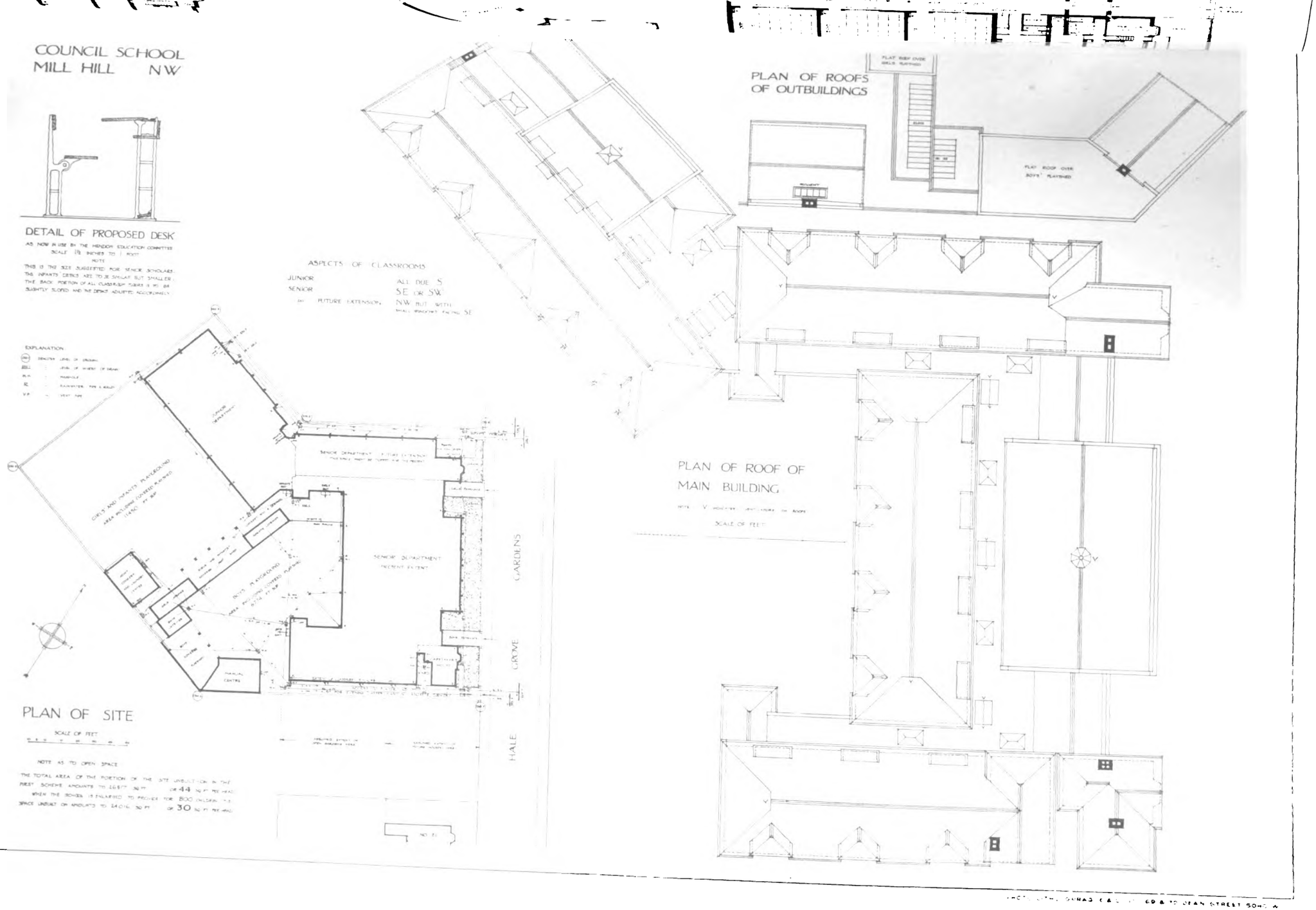
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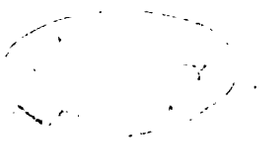
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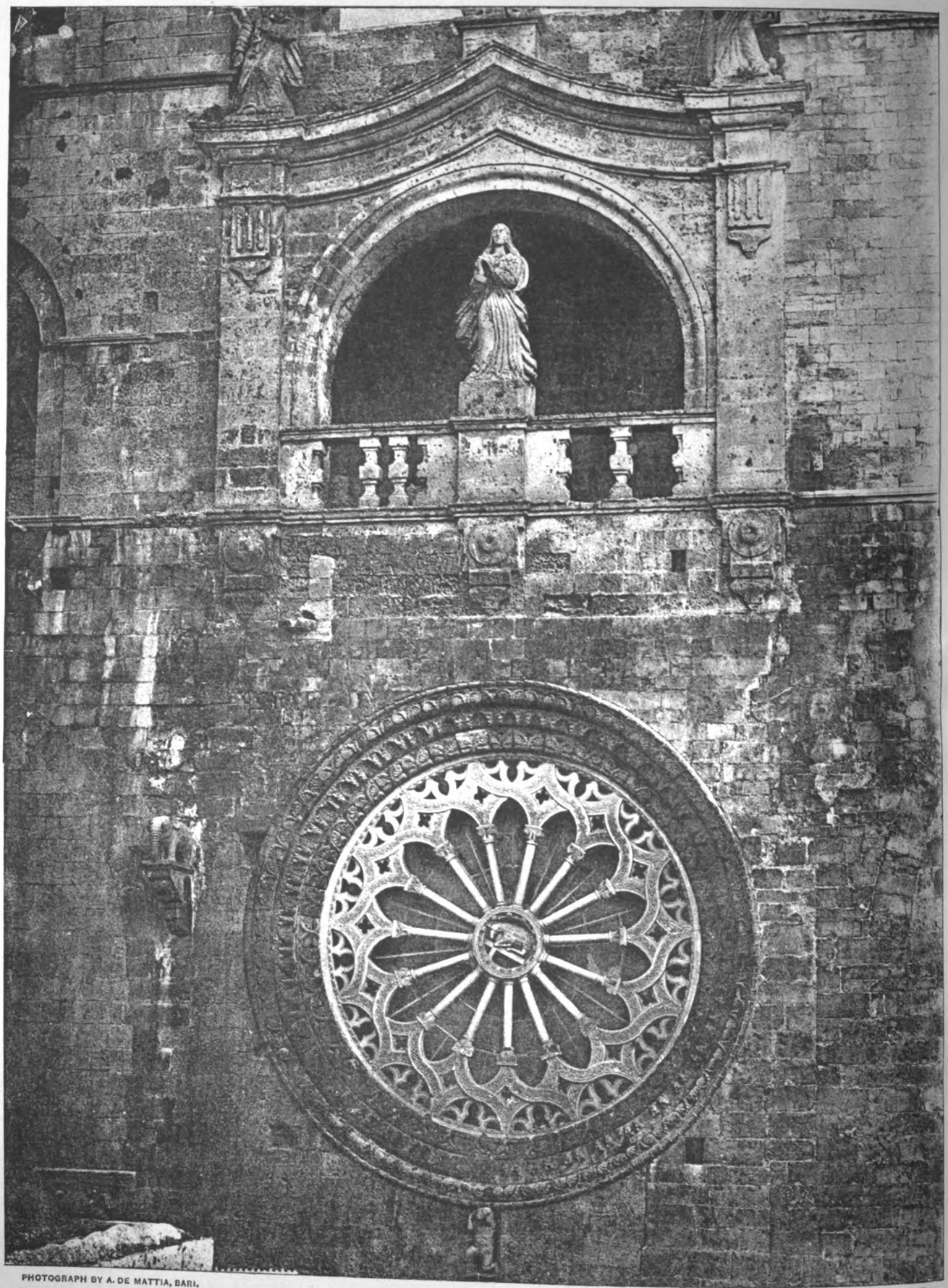
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WINDOW FROM CATHEDRAL, ALTAMURA.

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DOORWAY FROM CATHEDRAL, ALTAMURA.

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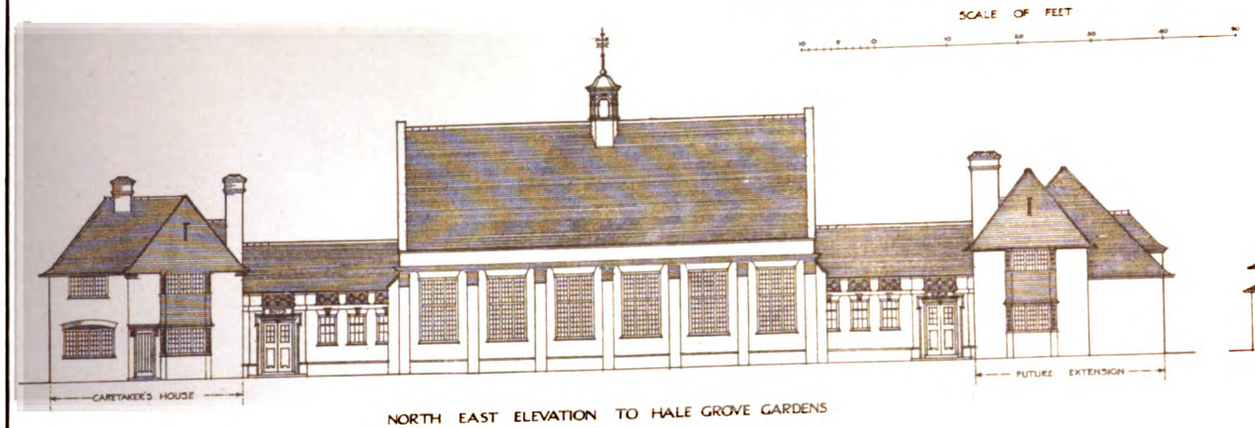
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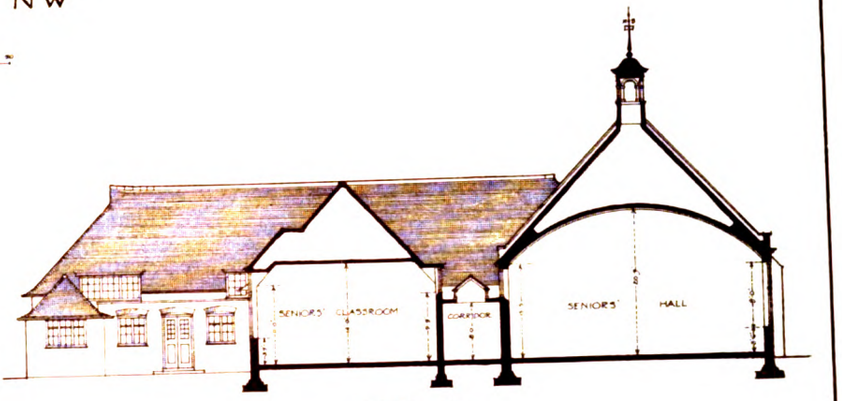
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COUNCIL SCHOOL MILL HILL NW

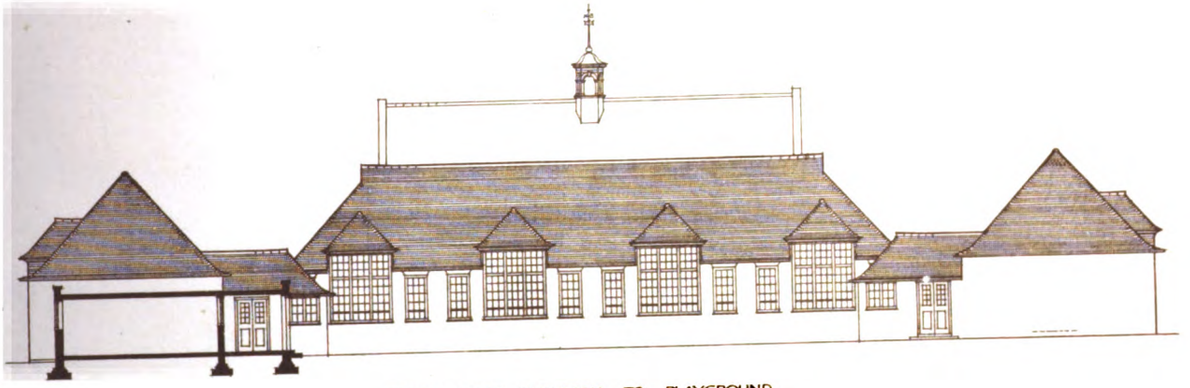
SCALE OF FEET



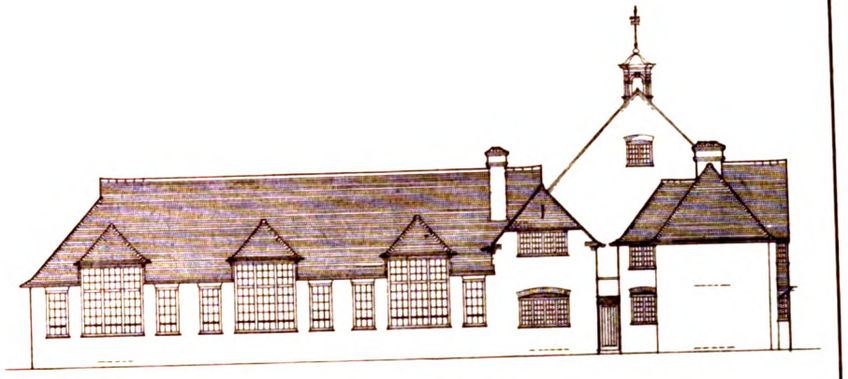
NORTH EAST ELEVATION TO HALE GROVE GARDENS



SECTION AB

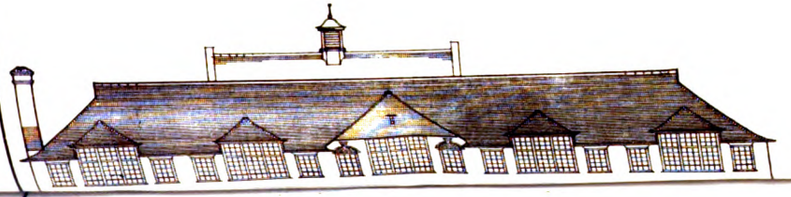


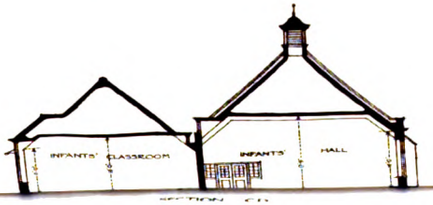
SOUTH WEST ELEVATION TO PLAYGROUND

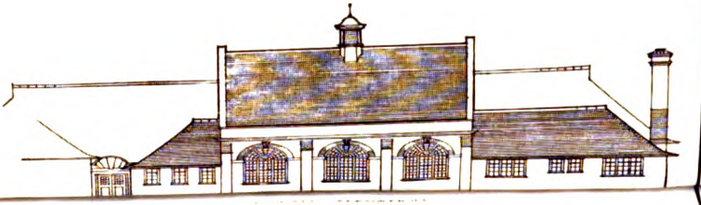


SOUTH EAST ELEVATION

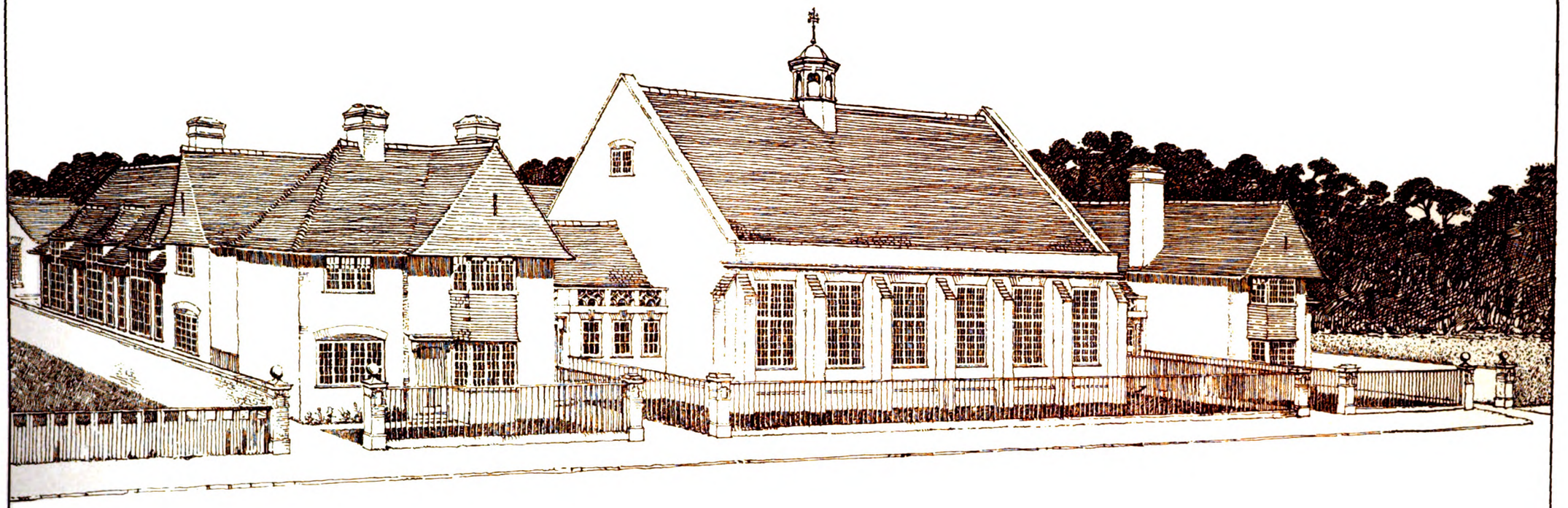
INFANTS' DEPARTMENT







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COUNCIL SCHOOL · HALE GROVE GARDENS · MILL HILL · N.W. *Martin Shaw Briggs A.R.I.B.A inv. et del.*

PHOTO-LITHO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W.

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ENGLAND—*continued.*

WARWICKSHIRE.

Foleshill.—Four houses, Spring Road, for Mr. H. Whiteman.

WESTMORLAND.

Storth.—Spring Grove Mills: extensions for Messrs. G. Mallinson & Sons, Ltd.

YORKSHIRE.

Askern.—Baptist chapel.

Beverley.—Council school, Minstermoorgate. Messrs. Hawe & Foley, architects, North Bar Street.

Cleckheaton.—Billiards hall, shop, &c., Northgate. Messrs. C. Williams (F.R.I.B.A.) & Sons, architects, Post Office Buildings, Commercial Street, Halifax.

Greetland and West Vale.—St. John's Church: vestries.

Halifax. House and shop, &c., Haley Hill. Mr. L. Coates, A.R.I.B.A., architect, 10 Central Street.

Offices for the *Halifax Courier*, Ltd., King's Cross Street. Messrs. Jackson & Fox, architects, 7 Rawson Street.

Huddersfield.—Workhouse, Crosland Moor: infants' home. Messrs. J. Berry & Sons, architects, 3 Market Place.

Malton and Norton.—Workhouse: laundry.

Marsden.—Drill hall Mr. W. Cooper, F.R.I.B.A., architect, 4 Kirkgate Buildings.

Normanton.—Houses and shop, Drury Lane, Altofts, for Mr. R. Clegg; also

Four houses, Church Road, Altofts.

Nunthorpe.—Church (£4,000).

Ripon.—Cottage hospital: extensions. Messrs. Bown & Crosland, architects.

Royston.—Picture hall, Midland Road, for Mr. J. E. Madely.

Saltburn.—Congregational school.

Sowerby Bridge.—Electric theatre, Wharf Street. Messrs. R. Horsfall & Son, architects, 22A Commercial Street, Halifax.

WALES.

Fochriw.—Council school. Mr. D. Pugh-Jones, F.S.I., County architect, County Hall, Cardiff. Messrs. Hamilton & Millard, contractors, Salop Street, Caerphilly.

Port Talbot.—Stores, Alma Place, Aberavon. Mr. T. Gibb, architect, Post Office Chambers.

Swansea.—Asylum, Sketty.

Sanatorium for 120 beds, Sketty (£50,000).

Ynysybwl.—Minister's house for Jerusalem C.M. Chapel. Mr. E. J. Evans, architect, 55 Dunraven Street, Tonypandy.

Ystrad.—Villa. Messrs. A. O. Evans, Williams & Evans, architects, Court Chambers, Pontypridd.

SCOTLAND.

Bogmoor.—Drill hall, &c. Mr. C. C. Doig, architect, 140 High Street, Elgin.

Broadford (Isle of Skye).—Territorial drill hall and instructor's house. Messrs. A. Ross (F.R.I.B.A.) & Son, architects, Queensgate Chambers, Inverness.

Milngavie.—Tenements of houses, shops, and picture house, Station Road. Mr. N. C. Duff, F.R.I.B.A., architect.

IRELAND.

Ballymena.—National school, Crebilly.

PATENT SPECIFICATIONS PUBLISHED AUGUST 13, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 13,482. Dec. 11, 1913.—Chas. Shaw, Princes Chambers, Princess Street, Wolverhampton, architect, and William Smith, Ruiton House, Dudley. Water-supply taps, valves, and the like.

16,620. July 19, 1913.—William Lippiatt, Stand 272, 7th Avenue, Parktown North, near Johannesburg, and Hedley Beauchamp, 16 Cecile Road, Norwood, near Johannesburg. Catches or fastening device applicable for sliding doors and the like.

16,800. July 22, 1913.—Nils Testrup, 3 Dean Farrar Street, Westminster, S.W., Thos. Rigby and G. W. Andrew, 61 Loreburn Street, Dumfries, and Wetcarbonising, Ltd., 3 Dean Farrar Street, Westminster, S.W. Sewage disposal.

17,688. Aug. 1, 1913.—M. J. Railing and George Maurice, 67 Queen Victoria Street, S.W. Electric cooking apparatus.

17,486. July 30, 1913.—G. J. Money, Rochester Road, Kentish Town, N.W. Fixed fire-extinguishing machines.

18,662. Aug. 16, 1913.—Jean Cuggia Fils, 2 Rue de la Paix, Nice, France, architect. Kitchen ranges.

20,485. Sept. 10, 1913.—A. T. Hudson, 19 Milestone Road, Stone, Dartford. Draw-off taps

21,030. Sept. 17, 1913.—W. S. Steljes, 147 Mount Pleasant Road, South Tottenham, N. Apparatus for dispensing disinfectants in flushing cisterns and for like purposes.

24,565. Oct. 29, 1913.—S. E. Forster, 15 Wood End Road, Erdington, Birmingham. Electric heating element.

28,207. Dec. 8, 1913.—A. J. Luke, "The Gables," Drayton, Cosham, Hants. Reinforcement for reinforced concrete.

705. Jan. 10, 1914. Fletcher, Russell & Co., Ltd., and T. W. Fletcher, Palatine Works, Warrington. Cocks or valves for gas burners.

8,476. April 3, 1914.—South Metropolitan Gas Company, 709 Old Kent Road, S.E., and Dean Chandler. Gas cooking stoves.

9,470. April 16, 1914. Dated under International Convention, April 26, 1913. H. L. Chauvel, 7 Rue de Tracy, Paris. Extensible sun blinds and the like.

12,840. May 25, 1914.—Joseph Winterflood, Geyser Villa, 22 Alexandra Road, Finsbury Park, N. Construction of gas tap.

8,396. April 9, 1913.—Dated under International Convention April 12, 1912. Junya Toyokawa, 37 Suido Cho, Koishiwa Ku, Tokyo, Japan. Instrument for drawing dotted lines.

2,518. Jan. 30, 1914.—Dated under International Convention Jan. 30, 1913. J. A. Farcot, 37 rue des Acacias, Paris. Construction in wood of trusses and framing for supporting roofs, arches, or the like.

4,571. Feb. 21, 1914.—W. M. Ratcliff, 51 Moorgate Street. Fastenings for safes and the like.

2,608. Jan. 31, 1914.—Gwilym Powel, 4 Caewallis Road, Bridgend, Glam., and Geo. Powell, Glenview, Coily Road, Bridgend, Glam. Windows and window fasteners.

5,553. March 5, 1914.—Wm. Pickard, 100 Langsett Avenue, Hillsborough, Sheffield. Domestic fireplaces.

6,510. March 14, 1914.—W. J. Gregory, 72 North Birkbeck Road, Leytonstone, Essex. Lead or other soft-metal glazing.

7,743. March 27, 1914.—T. B. Cooper and C. E. Holloway, 30 Pennywell Road, Bristol. Reinforcement for use in ferro-concrete structures.

9,553. April 17, 1914. E. A. Claremont, Broom Cottage, High Legh, Chester, and John Stratton, The Lindens, Winton Road, Bowdon, Chester. Glazing bars and the manufacture thereof.

11,450. May 9, 1914. S. R. Parkes, Pretoria Works, Willenhall. Sash lifts or door pulls or like fittings.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Acceleration of Building Works to Prevent Unemployment.

SIR,—The Board of Education have been requested by the Central Advisory Committee for the Prevention and Relief of Distress, which has been established at the Local Government Board under the chairmanship of Mr. Herbert Samuel, to call the attention of Local Education Authorities to the desirability of making preparation to carry out as much building work as possible in areas where an exceptional amount of unemployment is anticipated. The Board are confident that the authority will see the importance of making arrangements which will enable them to provide employment quickly if and when an emergency arises, so that the demands on the funds available for the relief of distress may be kept down.

The Board will use their best endeavours to accelerate the consideration of plans submitted by or through Local Education Authorities for the erection of new school buildings or the improvement of existing school buildings, and have instructed their officers to assist the authority and their architect by every means in their power.

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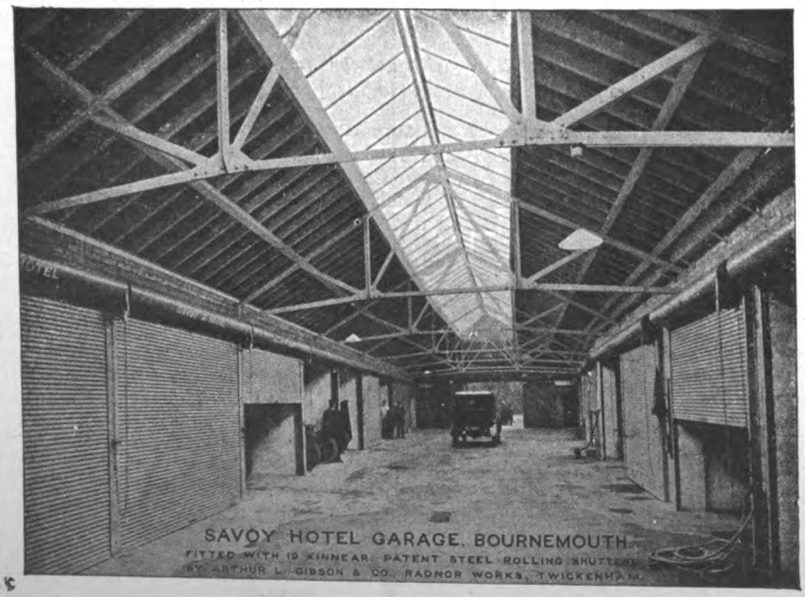
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The Board are assured by the Local Government Board that so far as they are concerned they will co-operate in this matter by accelerating as far as possible the consideration of applications for sanction to loans and of questions of sanitation, which fall particularly within their province.

Yours, &c.,

Board of Education, L. A. Selby-Bigge.
Whitehall, London, S.W., August 14, 1914.

Awards in Art and National Competition.

Sir,—I am directed to state that the following regulations of the Board of Education, which have been operative during 1914, will continue to be operative during 1915:—

(*a*) Interim Regulations for Scholarships, Exhibitions, Free Studentships and other Awards in Art, applicable to the year 1914.

(*b*) Regulations for the National Competition, 1914 (Rules 108).

It will, of course, be understood that in applying the terms of these Regulations the year 1914 will be substituted for the year 1913, and the year 1915 for the year 1914, except where the context renders the substitution inappropriate.—I am, Sir, your obedient servant,

Board of Education, L. A. Selby-Bigge.
Whitehall, London, S.W., August 14, 1914.

A Warning to Manufacturers and Merchants.

Sir,—My business has been established for some forty-eight years. No difficulties have ever been made by us in payment of accounts. When debts are due they have been invariably paid, and as a rule they have been remitted by post. Now I am receiving quite a number of printed communications from manufacturers and merchants stating that, in consequence of the war, no credit will be given, and all orders will be executed for cash only. We are paying cash in some instances where we must have the goods, but each firm who forwards us such a communication is being placed upon the list, and at the close of the war that list will be very actively employed, and doubtless to the unpleasant surprise of those firms who have secured entry upon it. In one case a firm took the trouble to send their representative to explain their situation, which was undoubtedly justified. Their name has been erased from this unenviable selection. Trade is dependent on credit very largely, as your readers know full well, and if refused at this time trade is in consequence at a complete standstill. Let manufacturers, merchants, traders, and consumers combine to render each assistance, and our industries will feel the effect of the war in such a manner that all will be able to emerge in a condition to be able to grapple with the increased volume of trade surely following a declaration of peace.—Yours, &c.,

A London Contractor.

Our Duty.

Sir, You are doing excellent and patriotic service in opening the columns of your paper to correspondence upon this subject, and I should like to bear testimony to your inspiriting leader. "T. Sq." does well to draw attention to a list of works that may be, *inter alia*, desirably put in hand at this juncture.

I might add that I have been fortunate in securing a client to proceed with some work, for which I have now arranged a contract, and the documents being signed the work is in progress. Every little helps at this time.—Faithfully yours,

August 19, 1914. Percy L. Marks.

Sir, What a treat it is to find a cheerful man at the present moment! I have just left the office of an architect who, with the remaining two members of his staff, have finished a set of drawings for a client, and have inserted my firm's goods in his specifications. Two members of his staff have been called as Territorials, and his last words were, "My client means to go on and my assistants and I will be able to see the job through. I expect I shall have trouble in obtaining some of the goods specified—well, if so, we must try others. Now the strike is over we mean to go on." Some of us can't fight, but given the chance we can and will work, and I want to thank you, Sir, that the tone of your paper is such that it can very materially assist a large body of men who are, like myself, entirely dependent on the prosperity and continuance of the building trade.—I am, your obedient servant,

Still Employed.

London: August 18, 1914.

Belgian Relief Fund.

Sir,—As President of the Belgian Chamber of Commerce in London I shall be glad if you could see your way to make a special appeal to the British Empire, through your Journal, in the hope of obtaining funds to relieve the distress of the families of the Belgian soldiers who are now heroically defending their country's honour.

I am enclosing a copy of a circular we are issuing to many London Societies and companies, and shall be glad if you can find space in your publication to reprint same. Thanking you in anticipation.—I remain, yours truly,

L. Godchaux.

Under the Patronage of Her Royal Highness the Duchess de Vendome, Sister of His Majesty the King of the Belgians.

The Belgian Minister in London has opened a fund to relieve the distressed families of the Belgian soldiers now in the field, who are gallantly defending their country against an unprovoked attack, and to afford help to the sick and wounded.

In making this appeal to the British public the Belgian Minister feels sure he can count upon their sympathy in Belgium's hour of need.

Contributions may be sent to the Belgian Legation, 15 West Halkin Street, S.W., or to Louis Godchaux, President of the Belgian Chamber of Commerce in London, 155 Fenchurch Street, E.C., marked "Belgian Relief Fund."

All contributions will be acknowledged through the *Public Ledger*.

Fresh Openings for British Trade.

Sir,—In view of the state of war which exists between this country and Germany and Austria-Hungary, th Board of Trade are confident that British manufacturers and merchants are already devoting special attention to the opportunities now afforded them of establishing themselves in Colonial and neutral markets in certain lines of trade in which German and Austrian or Hungarian manufacturers and merchants have hitherto transacted a large proportion of the business.

The present safety of the trade routes, coupled with the protection afforded by the State Scheme of War Risk Insurance, and the financial measures taken by his Majesty's Government to facilitate the continuance of business transactions, should enable this to be done to a very considerable extent, in view of the fact that German and Austro-Hungarian trade with oversea countries must necessarily be at a standstill.

It is evident that such a course will be of the greatest immediate benefit to the employment of workmen in the United Kingdom, and that it may also lead to the permanent advantage of British trade.

With a view to giving assistance to British manufacturers and traders in this matter memoranda have been prepared giving information with regard to possible developments in certain important trades. The accompanying memorandum relates to the trade in which you are especially interested:—

Any British manufacturer or merchant who desires to be furnished with more detailed information as to openings affecting his particular business should put himself in communication with the Director of the Commercial Intelligence Branch of this Department, Basinghall Street, E.C., who will be prepared to give any further particulars possible respecting names of buyers, rates of import duty, &c., or to make special inquiries through H.M. Trade Commissioners and the Trade Correspondents of the Commercial Intelligence Branch in the British Self-Governing Dominions, India, and the other Colonies and Protectorates, or through British Consular Officers in neutral foreign countries.—I am, Sir, your obedient servant,

H. Llewellyn Smith.

Commercial Intelligence Branch,
Board of Trade, 73 Basinghall Street, London, E.C.
August 1914.

Re Hippodrome, Lancaster.

Sir,—In reply to yours of the 13th inst., I write to state that the date upon which tenders are to be received was postponed to a date to be determined upon later, due notice of which will be given to contractors.—Yours faithfully,

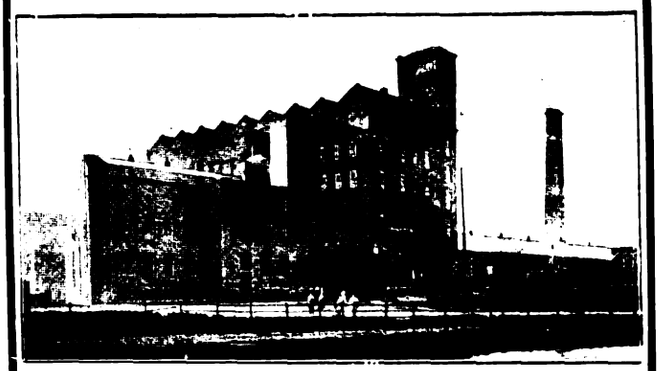
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Bank Chambers, Market Street, Lancaster.

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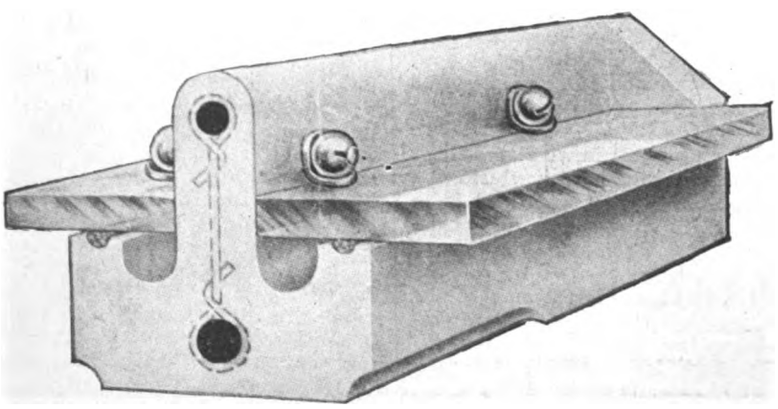
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PUBLIC ELEMENTARY SCHOOLS.

THE new regulations* for elementary schools have many characteristics in common with those for secondary schools, with which we dealt last week. We are told as before that "The Board's Building Regulations are partly a statement of principles of school planning upon which the Board proceed in criticising the plans submitted to them, and partly a statement of what the Board believe to be the best current practice in the application of those principles. Taken as a whole, the regulations are not a code of precise and definite rules with which compliance is required. A great part of the regulations does not admit of expression in the form of requirements, and their main object is to facilitate co-operation between the Board of Education and the Local Government Board on the one hand, and local education authorities and school architects on the other, in securing the greatest amount of comfort, convenience, and suitability which a reasonable expenditure can be made to yield." Thus we have with regard to elementary as to secondary schools a pronouncement of elasticity and freedom from cast-iron restrictions and rules, so that any school architect who may himself be capable of suggesting improvement in detail or even of evolving a new type of building may not feel himself debarred in putting forward his ideas by reason of the existence of hard-and-fast regulations. This is as it should be. This way progress lies. Would that all regulations concerned with building were equally elastic!

Some criticism has been made of an apparent reduction of playground area in the new regulations as compared with those of 1907, but these criticisms rest rather upon misapprehensions. The former stipulation was that the size of the site should be at the rate of a quarter of an acre for each 250 children, and it has been incorrectly assumed that this would be playground, but it really included the land occupied by buildings, other than a teacher's or caretaker's house, a cookery or other centre. Comparison ought to be made between the older stipulation that the unbuilt-on area should be 30 square feet per child and the present figures of 30 square feet for each older child and 16 square feet for each younger child. This really is an improvement, not a deterioration. It is better for supervision and avoidance of mischief and accidents that the playground for younger children should not be too large. Another point in the new regulations that has been overlooked by the critics is that provision for organised outdoor games off the premises may be taken into consideration as an adequate reason for reduction of the size of playgrounds on the actual school site.

The central hall is for elementary schools as for secondary no longer an approved feature. The hall must be now so placed that noise in it will not disturb the work in the classrooms. For this reason, as well as for ventilation and freedom from dust, the classrooms should not open directly from it. The hall may, therefore, be altogether or partly detached from the main building.

There is in the new regulations a departure from the practice formerly allowed of providing corridors from 8 to 12 feet wide available for marching exercises and physical drill in schools not provided with a central hall. The obvious defect of such an arrangement as causing noise prejudicial to teaching in adjacent classrooms has now resulted in the stipulation that corridors should be for access only and of a width of 6 feet to 8 feet according to the size of the school.

A new introduction is what is termed a "main-room," which is a room in which a class under one teacher can be divided into groups for the sake of efficiency and convenience in teaching. It would accordingly be rather longer than an ordinary classroom, so as to admit of the groups being arranged side by side, and necessarily should be fully lighted from the two ends. Where no hall is provided, some extra space not occupied by desks is regarded with approval in such a "main-room." Thus we have in effect a return to the long schoolroom of the pre-classroom era, which is undoubtedly in small village schools taking children of widely different ages a more convenient an arrangement than a hall and classrooms. In a village school of 150 children all told, of both sexes and all school-ages, the central hall and classroom type of school is manifestly unsuitable, and there has been consequently a tendency to avoid the erection of small schools, with the result that children in the country have to walk long distances in order to reach a centre which may provide sufficient scholars for a large school.

Further recognition of the desiderata for small schools is afforded by the stipulation that, where the number of younger children is not sufficient to necessitate the provision of a separate playroom, free space can be provided by furnishing a room with light moveable tables and chairs instead of desks. For such rooms not less than 12 square feet of floor-area per head is required. The terms "infants" and "babies" are now no longer used, but "younger children" and "very young children" or "children under five years of age." For these the normal floor-area remains as before.

The modification in the character and position of the hall permits, as in the case of secondary schools, of the construction of cross-ventilated classrooms, and the influence of the Derbyshire type of school is further seen in the permission accorded that in suitable circumstances access to classrooms may be provided by means of verandahs, and that the Board are prepared to consider plans showing classrooms so arranged that one or more of their sides can be thrown completely open.

Cloakrooms have now to be still further enlarged, and therefore a still greater trouble to the school-architect's plans by the requirement of a lineal hanging space for girls and infants of nine inches, instead of six as formerly. The number of lavatory basins is now fixed at the rate of two for every fifty children. Closets are now required in slightly greater numbers than hitherto.

Temporary buildings will be allowed for schools in certain cases, and applications of materials and methods of construction, different from those usually employed at present, will be considered by the Board, having regard to the Report of the Departmental Committee on the cost of school buildings, of 1911.

* *Building Regulations for Public Elementary Schools.* **Being Principles to be observed in Planning and Fitting-up New Buildings in England (excluding Wales and Monmouthshire) In force from September 1, 1914. (London: Eyre & Spottiswoode, Ltd., East Harding Street, E.C. 2½d.; post free, 3½d.)**

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Having in view the radical change of type contemplated by the present regulations from that enforced when the previous ones were issued in 1907, it is open to question whether any permanent buildings should be constructed for schools. A complete *volta face* in seven years does not promise permanency for the type recognised to-day, and seven years hence it may be quite possible that the type now favoured will be found to have disadvantages that may render imperative a further upheaval.

NOTES AND COMMENTS.

The Select Committee appointed to inquire into and report what changes, if any, in the existing system of heating and ventilation of the House of Commons may be desirable and practicable have held fifteen meetings and taken evidence from a number of witnesses, but have not as yet arrived at any definite scheme of improvement pending experiments, and we think they are right, as we have no high opinion of the value of much of the evidence that has been given so far as it has been reported. The Committee recommend that a Sub-Committee be appointed to carry out experimental trials of alterations in the system of ventilation which have been considered by the Committee, and which can be carried out with little expense and in a temporary fashion for the purpose of such trials. The Committee think it inadvisable that any permanent alterations should be made, or any more extensive changes contemplated, until the effect of the following alterations have been thoroughly studied: (1) That the "slit" and "valance" inlets be closed throughout the House. (2) That the flues from the "slit" inlet be carried up to open at the top of the rail of the front benches, and in the case of the back benches a few inches higher than the rail. (3) That air trunks be constructed beneath the floor of the galleries all round the House. These air trunks would open mainly at the face of the gallery, partly under the cove. To effect these alterations the same plan of construction should be used as was successfully employed by the engineer on a small scale for experiments carried out by Dr. Leonard Hill last autumn. (4) That a hot-water pipe be carried under the floor of each bench, as is now the case under the front benches. These pipes will probably prove of permanent value. (5) That the present upcast through the floor of the House and the gangways be retained in the preliminary trials. The effect of closing these should be tried; also the effect of changing them into a downcast should be tried, if the result of the experiments indicate the necessity of this change. To effect the change to downcast, temporary air trunks should be constructed in the mixing chamber, and a fan temporarily installed there. (6) That in the case of the Committee Rooms a temporary inlet be constructed all round the walls of some special Committee Room where there is already a supply from an input fan. This inlet should open at a height of eight feet from the floor. The present inlets should be closed, or used as temporary extract gratings, and connected to extract fans as may be required by the experiments determined on. Other Committee Rooms should be altered experimentally in different ways, of which it is unnecessary to give details at present. Input and extract fans should be arranged to give an adequate supply of air in each case, and heating surface may be installed to determine its effect. Comparative trials should be made of these rooms and of other Committee Rooms where the system of ventilation remains unaltered. From these trials information would be gained as to how to deal successfully with other rooms and lobbies of the House of Commons. To make the trials fully adequate it is necessary that occasionally the House or Committee Rooms should be crowded.

In the event of such an experiment being undertaken while the House is not sitting, and apparently giving satisfactory results, the Committee suggest that it should be continued for a few days after the House reassembles in order to obtain the views of members as to the effects of the proposed alterations.

The Committee have had under consideration the ventilation of the rooms occupied by members of the Press in rear of the Press gallery. Nearly all of these rooms are most inadequately ventilated. The Committee consider that immediate attention to this matter is required, but are unable to advocate any specific alterations of the existing system of ventilating these rooms, as they are convinced that no such alteration would produce any material benefit without the removal of party walls and other structural alterations which it may be outside the terms of this reference to suggest.

As it will not be in the power of the Committee to make a full report in the present session, they have agreed to recommend that a Committee on the same subject be appointed in the next Session of Parliament.

The Board of Agriculture and Fisheries have just issued three special leaflets—No. 1. Suggestions to Allotment Holders for Autumn Treatment of Land; No. 2. Notes on Poultry Feeding; No. 3. Poultry on Allotments and Garden Plots. These are specially intended for the education of the public in the strengthening of our food supply at the present time, and though not exactly suitable for our columns, may be of interest to some of our readers. Copies may be obtained, free of charge, from the Secretary, Board of Agriculture and Fisheries, Whitehall Place, London, S.W.

Some people will, of course, take any opportunities the war may give them to squeeze extra profits, but we trust that the example of timber merchants in Newcastle, as reported in the *Newcastle Daily Journal*, will not be generally followed. A representative of that journal has been informed by Mr. Stephen Easten, a prominent Newcastle building contractor, that a notice had been sent out by a few timber merchants intimating that the prices of timber would be increased from 20 to 25 per cent. While all the timber merchants had not sent out such notices, it was understood that they had held a meeting on the subject. The builders were also called together, and they had a meeting with one of the timber merchants who sent out the notice. His position is now considerably modified.

New customers or anyone entering into new contracts are to be charged an increase of 20 per cent. It is understood that most of the merchants are supplying customers on old contracts, as far as they reasonably can, with timber at the old prices. In cases where a contract does not exist, a compromise will be come to.

There is a fear among some timber merchants that before very long the import of timber into this country will be at a standstill, because the bulk of it comes from the Baltic Sea. Many builders, however, are fairly sanguine that the timber trade will not be so seriously affected as is feared, and we agree with this opinion. Ships from Norway are now arriving in this country, and even if timber ships had to run the gauntlet of the mine-strewn, narrow seas between Denmark and Scandinavia, it would take a good many mines to sink a timber ship. But our chief reliance must be placed on timber from across the Atlantic, whence we already receive all our soft-wood timber of scantlings exceeding 12 inches by 4 inches.

DOORWAY, EGERTON HOUSE, CHESTER.

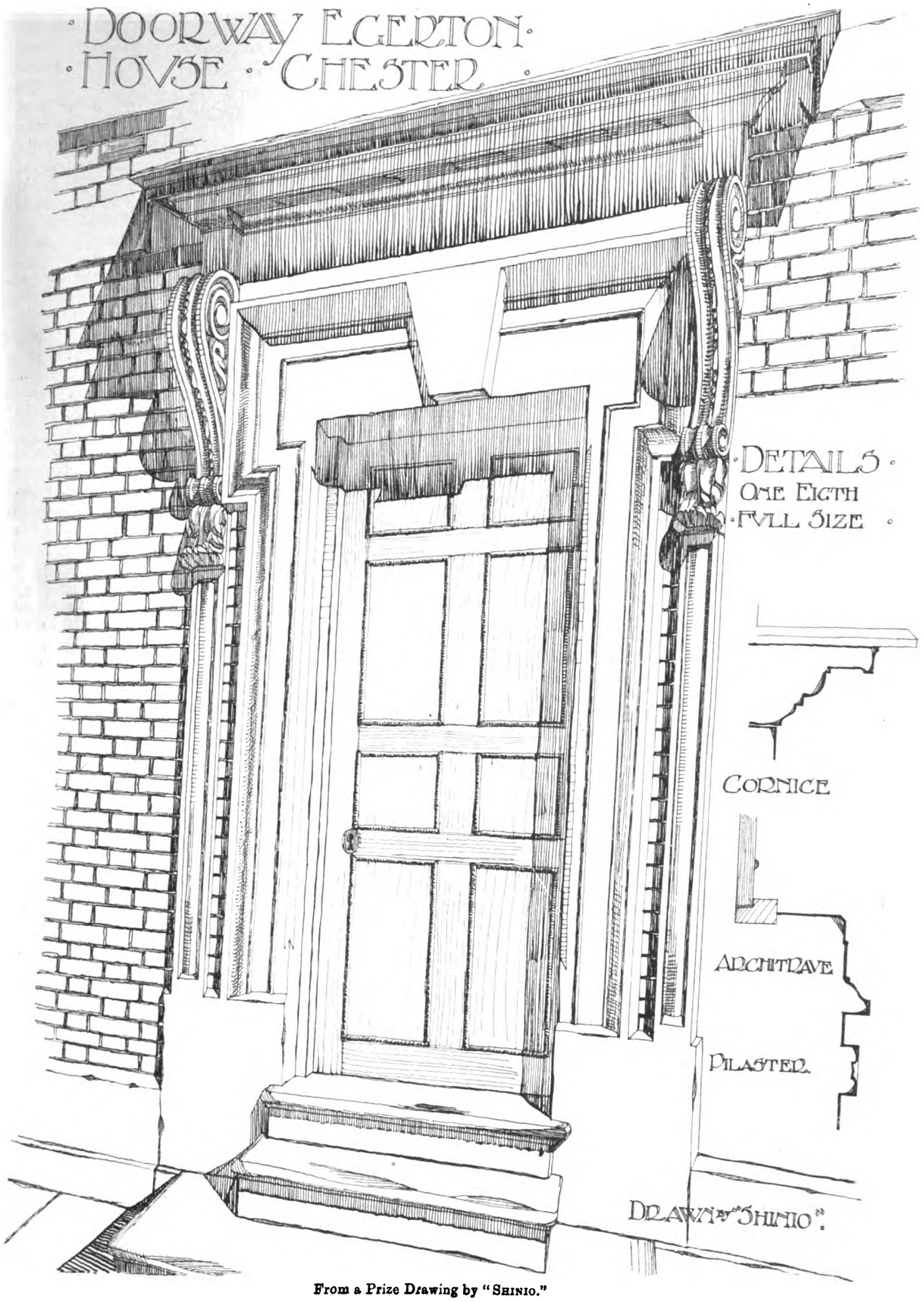
Egerton House is perhaps the finest of Chester's Georgian town houses, being of extreme size. It is situated without the walls in Upper Northgate Street, being quite away from the other Georgian houses.

It was built for Lord Egerton about 1720, and after passing through the hands of several owners is now the residence of a local doctor.

The doorway itself is something out of the ordinary for Georgian design, displaying great originality. The

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From a Prize Drawing by "SHINIO."

small pilasters supporting the console brackets, being separated from the architrave by a thin band of brickwork, is rather a happy idea, although the console bracket itself is rather more a decorative feature than a utilitarian one, for it will be seen that it merely supports a slight frieze, and bulges out from under this in rather an overpowering manner.

The cornice is rather a simple one with a boarded and leaded top.

The door, as usual with Georgian work, is very plain, with merely the panels formed with planted semicircular beads over the joints.

The huge keyhole, 2½ inches long, is rather quaint; and one can all the more appreciate *Punch's* joke of the guest who, when asked why he was leaving so early from the ball, replied that he never carried his key with him, it spoilt his figure so.

The doorway, like the house, is in an excellent state

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of repair, and is tastefully painted, the door being a delicate pea-green and the stonework an appropriate cream. On the door, too, is a very old small brass plate, with the peculiar request, "Please do not knock or ring unless an answer is desired." There is a long bell-pull in the jamb on the right side.

WAR ITEMS.

An essential condition in the attack on the enemy's trade by British manufacturers and merchants is the probability of obtaining payment for goods exported, and we therefore give space for the following:—

Special telegraphic reports received from H.M. Trade Commissioners and Consuls on the commercial conditions now prevailing in the Dominions and in certain foreign markets.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, cables were dispatched on August 14 to H.M. Trade Commissioners in Canada, South Africa, Australia, and New Zealand, and to British Consular Officers in South America, China, Japan, and Egypt, asking them to report on the financial and commercial conditions in their districts, and as to the likelihood of regular payments being forthcoming for goods supplied. The following is a summary of the replies which have been received to date:—

South Africa.—H.M. Trade Commissioner reports (August 17) the existence of depression due to drought, which was accentuated by the war. Prices of foodstuffs rose to a high level at first, but concerted action by the merchants and the reassuring statements which the Dominion Government was in a position to make resulted in prices of present stock being fixed at 10 per cent. more than the normal market price. The action of H.M. Government regarding insurance against war risks is highly appreciated. The banks are fully prepared to finance reputable merchants as hitherto, and merchants are ready to carry on trade. Indents supplied previously by Germany and Austria will be executed by the United Kingdom and France. The unavoidable decrease in the exports of diamonds, hides, and feathers will affect the community proportionately.

Canada.—H.M. Trade Commissioner reports (August 16) that according to the information which he has been able to obtain, the present financial condition of importers is generally satisfactory. The approximate value of import trade from Germany is £3,000,000. The following is a list of certain goods in which, in his opinion, British firms might extend their trade as the result of existing conditions:—Bristles, brooms, brass articles, brass tubing, boiler tubes, beans, combs, clothing, crude glycerine, litharge, lead pencils, locomotive tyres, optical instruments, piano-keys, ivory, perfumery, purses, leather, medicinal materials, chinaware, carbons, cutlery, carding machinery, copper tubing, electric apparatus, enamelled ware, furs, ferro-silicon, fabrics for neckties, gelatine, glassware, gloves, gun wads, hides, hops, lamps, rubber, skates, socks, toys, velvets, zinc bars.

Australia.—H.M. Trade Commissioner in Australia reports (August 17) that the financial position in that market is strong. The Federal Government is prepared to support the banks, if necessary, and the execution of Federal, Public, and State works will be continued. The commercial position appears to be sound, as the banks are adequately supporting merchants. He considers that there is a good opportunity for manufacturers to secure valuable trade. Firms should cable to their agents that they are able to fill orders, if they are in a position to give this assurance. Particular attention should be directed to trade in fencing-wire, mild steel, wire-netting, cotton-hosiery, minor articles for apparel, rubber goods and chinaware.

New Zealand.—H.M. Trade Commissioner reports (August 19) that the present conditions of trade are disturbed, but he anticipates that this is only temporary, and considers prospects to be good, and regular payments likely to be maintained. The demand for necessaries is not likely to diminish. An increasing demand for British goods may be expected, but prompt overtures should be made, so as to anticipate competition from America.

Brazil.—H.M. Consul-General at Rio de Janeiro reports (August 18) that an opportunity certainly offers for British firms to secure trade now in German hands. Traders should make arrangements for payment in gold and not in paper currency, since the Government propose to make a large local issue of paper, and, in all probability, exchange will decline sharply. British firms desiring to transact business should send competent representatives possessing the necessary technical knowledge to study local conditions. H.M. Consul adds that in Rio de Janeiro firms are in a good financial position, and it should not be difficult to secure regular payment, but the utmost caution should be exercised in the choice of customers.

Argentina.—The British Consul-General at Buenos Aires reports (August 14) that the preponderating share of the trade is already in the hands of British firms. Banks refuse to give credit, and there is no money to be had. Grain stocks cannot be moved, because bills cannot be drawn on Europe and the banks can no longer finance cultivators. Regularity of payments cannot be relied upon. There is a danger of depreciation in the value of currency, and it is stated that the Government propose to prohibit the exportation of wheat, the effect of which would be to diminish purchasing power.

China.—The British Consul-General at Shanghai reports (August 15) that Shanghai merchants are fully alive to the situation. The difficulty in getting shipments away is reacting on the import trade, but Chinese merchants are confident that business will shortly be resumed on a small scale. Silk-spinning mills, cotton mills, and industrial undertakings generally are working, but the market is oppressed by the stock of cereals which, under normal conditions, would have been shipped to the Continent of Europe.

Many of our readers and advertisers are concerned in the furniture trade, either as designers, manufacturers, or merchants, and the following excerpts from the Memorandum of the Board of Trade on competition with Germany and Austria-Hungary in neutral markets as regards furniture will be of interest. (The complete Memorandum can be obtained on application to "The Director, Commercial Intelligence Branch, Board of Trade, 73 Basinghall Street, London, E.C.")

Extract from communication received from the British Vice-Consul, Kharkov, in May 1914:—

"During my recent visit to Moscow I heard of an interesting method of selling furniture, adopted by a German manufacturer.

"His agent, an employee of the firm, is both architect and designer, and offers his services for every kind of artistic and decorative work. This includes designing furniture and house equipment generally, as also wall papers and stucco-ceilings suitable for house owners and retail shops. The firm supplies him with drawings and even complete sets of model furniture on a miniature scale, and he adapts these to the varying circumstances.

"The firm sends German workmen for fitting the furniture and wainscoting, also upholsterers and workers in plaster, and hands over the rooms quite ready for use. I am told that the firm is successful in its work, the designs and workmanship being excellent and the prices comparing favourably with those of Russian first-class makers. The agent's circle is spreading, and he is now extending his work to St. Petersburg.

"Through art journals, more particularly German ones, taking up the subject of house-decorating, and through foreign architects insisting on specially designed furniture, the better-class house-owners realise that it is better to

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engage designers and spend more money on the decoration of their homes than formerly. As yet this new mode of furnishing is confined to the principal cities, St. Petersburg, Moscow, and perhaps Warsaw, but work could undoubtedly be found on the big estates and in provincial towns.

"Before exporting furniture and upholstery material to Russia the Russian Customs tariff should be carefully consulted. Thus, for instance, inlaid wood and carving of all kinds pay a heavy duty and should be forwarded separate from the furniture. Silk materials or materials interwoven with silk are excluded through the prohibitive tariff. Boards at the back of cupboards and unvarnished on the other side pay a lower duty and can occasionally be packed separately with advantage.

"The total furniture imports are not clearly shown in the statistics, but the approximate amount is £550,000, per paragraphs 61-2 and 61-3b of the tariff."

The following statements show for a recent year the value of various descriptions of furniture exported to all destinations from Germany and Austria-Hungary respectively:—

A. Exports from Germany, 1912.

Furniture and parts thereof, common, not veneered, of (*a*) Of soft wood, £101.500; (*b*) of hard wood, unfinished, £31.150; (*c*) of hard wood, finished, and bent-wood furniture, £295,850; veneered (not upholstered), £157,000; upholstered furniture, upholstered cushions, without coverings, £5,100; billiard tables, covered and parts thereof, £5,150; upholstered furniture, &c., with coverings, £88,450; total of above exports from Germany, £685,900.

B. Exports from Austria-Hungary, 1913.

Furniture and parts thereof:—(*a*) of soft wood, £30,000; (*b*) of hard wood or veneered with common wood—(1) Bent-wood furniture, £911,200; (2) other sorts of furniture, £81,500; (*c*) furniture with or without fittings, or otherwise combined with iron or base metal—(1) in the rough, £13,300; (2) stained, dyed, varnished, lacquered, polished, £21,100; (*d*) furniture upholstered, not covered, £15,200; (*e*) furniture combined with fine materials except leather or tissue—gilt, silvered, bronzed, or finely painted, £14,800; (*f*) furniture and parts thereof with inlaid work, with coverings of all kinds, £8,900; total of above exports from Austria-Hungary, £1,096,000.

The value of furniture and cabinetware exported from the United Kingdom to all destinations in 1913 amounted to £1,275,000. Unfortunately no details are available as to the different classes of articles included under this heading in the trade returns of the United Kingdom.

C. Principal German Markets.

The principal markets for common German furniture in 1912 and the amounts sent to each were as follows:—Furniture and parts thereof, common, not veneered, of soft wood—Exported to—United Kingdom, £7,550; France, £5,150; Roumania, £2,550; Russia, £17,500; Argentina, £8,750; Brazil, £2,600.

Furniture and parts thereof, common:—Not veneered—of hard wood, finished, and bent-wood furniture—Exported to—United Kingdom, £13,200; Denmark, £2,800; France, £10,650; Italy, £5,900; Roumania, £4,750; Russia, £30,000; Turkey, £3,000; Egypt, £2,950; Argentina, £17,900; Brazil, £7,100; Chile, £7,200; Uruguay, £6,200.

Furniture and parts thereof, common, veneered (not upholstered)—Exported to—United Kingdom, £2,550; France, £6,250; Russia, £51,350; Argentina, £6,850; Uruguay, £2,250.

Upholstered furniture, &c. (except billiard tables), with coverings—Exported to—United Kingdom, £6,100; Russia, £12,700; Switzerland, £5,900; Argentina, £4,600; Brazil, £3,100; United States, £4,300.

The aggregate value of the German-made furniture of the kinds specified exported to these markets amounted to £225,000.

D. Principal Austro-Hungarian Markets.

The bulk of the Austrian exports of furniture are classed as "furniture and parts thereof of hard wood or veneered with common wood" and the aggregate value of such furniture exported in 1913 amounted in round figures to £993,000. The major portion of this amount (£911,000) represented bent-wood furniture—an Austrian speciality. It would probably be impossible to replace the Austrian product with a British product of exactly the same character, but with a view to the possible substitution of British-made for Austrian-made goods the following particulars as to the principal neutral and other markets for Austrian hard wood furniture may be useful:—

Furniture and parts thereof of hard wood or veneered with common wood.

(*a*) Bent-wood furniture: United Kingdom, £36,000; Bulgaria, £2,750; Denmark, £2,000; France, £68,000; Greece, £5,000; Italy, £74,000; Roumania, £9,000; Russia in Europe, £5:100; Spain, £1,650; Turkey in Europe, £11,000; Turkey in Asia, £17,000; British India, £37,000; China, £4,300; Egypt, £32,000; Tunis, £2,300; Argentina, £112,000; Brazil, £29,000; Chile, £6,000; United States, £45,000; Australia, £6,500.

(*b*) Other than bent-wood furniture: United Kingdom, £500; France, £11,500; Italy, £4,600; Roumania, £24,000; Russia in Europe, £2,400; Turkey in Europe, £4,900; Turkey in Asia, £2,300; British India, £1,300; Egypt, £2,800; Tunis, £4,100; Canada, £2,300.

The aggregate value of the Austrian-made furniture of the kinds specified exported to these markets amounted to £556,300.

E. British Exports to German and Austrian Markets.

The value of British-made furniture and cabinetware exported to the markets referred to in the preceding pages in the year 1913 was as follows:—To British India, £41,100; Australia, £61,800; Canada, £53,400; Denmark, £3,400; France, £90,500; Spain, £12,900; Italy, £15,100; Greece, £1,600; Bulgaria, £200; Roumania, £4,500; Russia, Southern Ports, £2,000; Turkey in Europe, £7,100; Turkey in Asia, £2,900; China, £3,600; Egypt, £30,900; Tunis, £200; Argentina, £182,900; Uruguay, £35,200; Brazil, £15,200; Chile, £39,900; United States, £177,800.

F. Summary.

The foregoing particulars indicate that in the United Kingdom alone German furniture to the value of £29,000 and Austrian furniture to the value of £36,000 might be displaced by British-made furniture, while in the other markets mentioned some portion of the £726,000's worth of trade in German and Austrian furniture might well be captured. In the United States, in Argentina, and in France British furniture is already in good demand, but the figures indicate that even in those markets it should be possible to extend still further the sales of British goods.

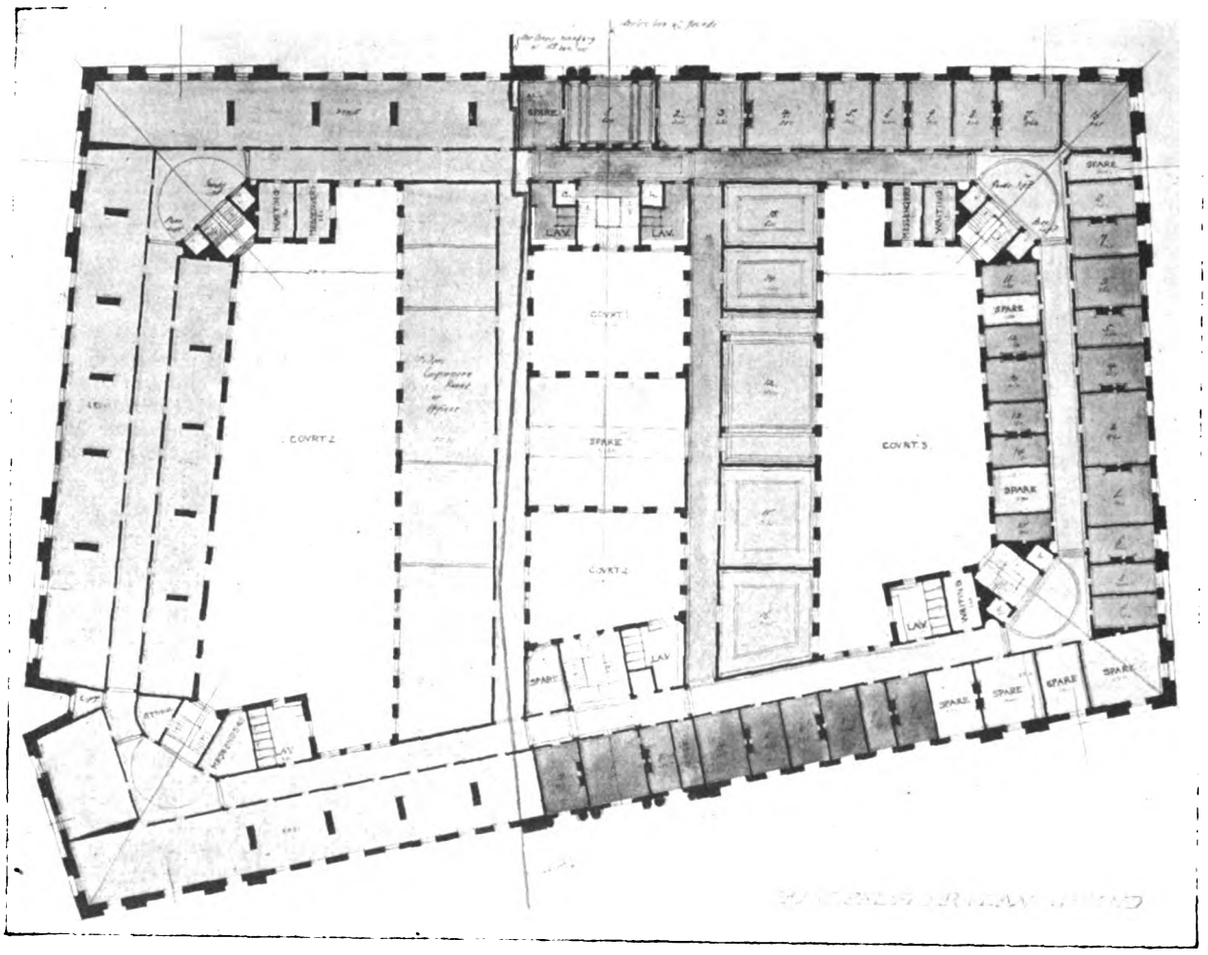
At a largely attended meeting of business men, held at the Cannon Street Hotel, and presided over by Mr. H. Gordon Selfridge, Mr. Thomas Russell, in moving a resolution urging the Press to continue its efforts to restore the confidence of the public in the stability of trade, said it would be a poor thing for the advertising community at this moment to fly into a fright and stop the advertising of its goods. They were suffering from a want of confidence. German competition had for years been one of the greatest hindrances to British commerce. Now was the time to get our own back, but that could not be done without advertising. This was the time to tell the people the facts, and advertising was the method of doing it. British manufacturers should recognise and profit by the splendid chance offered them at the moment by the position of Germany. The Board of Trade had pointed out to them the way to new markets; let them point the way to those new markets by the medium of advertising. We may add to Mr. Russell's remarks that to abstain from advertising at the present time is suicidal. Many architects of our acquaintance are suspecting that the absence of familiar notices, which are closely scanned just now, is due to the fact that the firms whose usual announcements do not appear have really been supplying German or Austrian goods, or earning profits for enemy shareholders, and are now unable to continue their business.

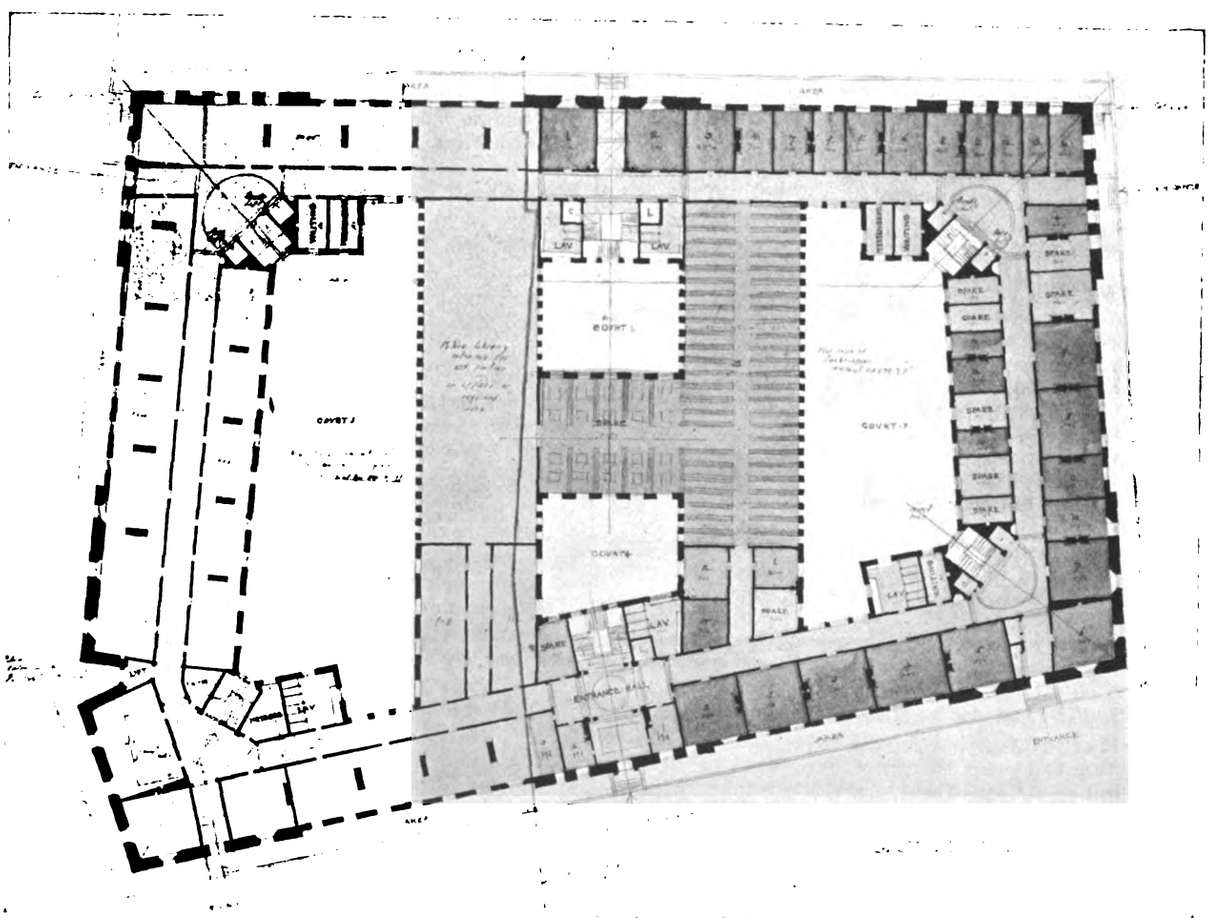
THE ARCHITECTS' WAR COMMITTEE.

SUPPORT FROM THE SOCIETY OF ARCHITECTS.

THE Council of the Society of Architects, at its meeting on August 20, unanimously decided to support the movement initiated by the R.I.B.A. by every means in its power, and to place at the disposal of the Architects' War Committee the Society's premises and staff at Bedford Square for the use of any of the sub-committees. They further voted a first grant of 100 guineas as a contribution to a fund to be formed for providing paid work for architects whose means of livelihood are stopped by the war, and undertook to appeal to members of the Society and their friends for generous contributions towards this fund. The Council has suggested

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COMPETITION DESIGN FOR BOARD OF TRADE OFFICES.—By Mr. G. Berkeley Wills, A.R.I.B.A.

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to the Architects' War Committee that a professional employment sub-committee of that body should be at once formed to deal with the administration of this fund: firstly, in determining those architects in actual need of financial assistance in consequence of the war, and, secondly, in evolving schemes of a useful nature by which these men may be temporarily employed, such, for instance, as offering small fees for measured drawings to be made of buildings of historical and architectural interest, schemes for the improvement of arterial traffic, or town planning improvements, &c., &c. The main object of this sub-committee would be not to distribute benevolent aid, but to enable a man to earn a small weekly sum in such a manner that at the end of the war the community would benefit by the work done.

The copyright of these drawings should belong to the man producing them, but the original or copies should be deposited with the Architects' War Committee for subsequent exhibition or publication.

The Council further suggested the desirability of a common appeal being made to architects by the Architects' War Committee, but that this appeal should be circularised by each architectural society amongst its own members with a covering letter of support. The Society of Architects is willing to bear the entire cost of circulating the appeal and collecting the contributions to the fund from its members and their friends.

ILLUSTRATIONS.

DESIGN FOR BOARD OF TRADE OFFICES.

This design, by Mr. G. Berkeley Wills, A.R.I.B.A., was submitted in the recent open competition. The building is planned on symmetrical lines, and in such a manner that it might be built in two portions as was desired.

The main cornice has been kept down to line up as nearly as possible with that of the War Office (about 80 ft. from the pavement) so as not to dwarf that building in height. This cornice is surmounted by the attics—the upper one being recessed behind a balustrade—and there are two storeys in the roof. It was considered that this treatment was most suitable to keep the building in scale with those in Whitehall—which are comparatively low—and at the same time the arrangement of the roof and corner pavilions brings the building into harmony with those on the Embankment, and affords a picturesque sky-line as seen from Westminster Bridge and from St. James's Park over the buildings in Whitehall.

HALL IN HOUSE AT WINCHESTER.

This was built to serve several purposes, as a living-room from which the other three sitting-rooms open, as a billiard-room, and as a ballroom. The recess shown in the drawing was planned in such a way that the billiard-table (which was specially made for the purpose) could be moved bodily into it and curtains drawn to protect it, leaving the rest of the hall for dancing when occasion needed. The principal staircase makes a feature of the hall, and owing to the natural fall of the ground there is a small staircase leading from another corner of the hall into the dining-room. The hall has a large ingle; and a door divided into two halves, somewhat similar to those used in a stable, leads to a verandah and paved terrace on the south side. For the sake of economy the ceiling joists as shown were omitted. The house is planned in a L shape, so that the paved terrace should be protected from the north and east as well as from the neighbours' windows.

COTTAGE AT CROWBOROUGH, SUSSEX.

The site chosen for this is one which has an extensive view, so that from the houseplace on a clear day the hills round Eastbourne can be seen. The porch opens into the hall dining-room, and the houseplace, though the cottage is but small, measures 27 feet long, and opens on to a paved terrace. As economy was to be considered, the bathroom was placed near the bottom of the staircase, thus enabling four good bedrooms to be formed upstairs. The cottage is of brick, rough cast, and with tiled roof.

DOORWAY FROM CATHEDRAL, BARLETTA.

The cathedral at Barletta is one of the typical churches of Apulia, in which a Romanesque original has received Renaissance additions, in which is included the doorway we illustrate.

DOORWAY FROM CATHEDRAL, CONVERSANO.

This is an interesting example of the use of lion bases to columns, of which there are several examples in Apulia.

ROYAL ARCHÆOLOGICAL INSTITUTE SUMMER MEETING.—VI.

(*Concluded from page* 148.)

Tuesday, July 21.

As on the previous day, the party commenced with a railway journey from Derby by the 9.35 A.M. train to Bakewell. Here a change was made into motor char-à-bancs, and the journey continued through much interesting scenery, except about those parts where "the hedges are of stone," to

TIDESWELL CHURCH.

This is not unworthy of its claim to be "The Cathedral of the Peak." For how long it has been so called we do not know. Such a descriptive and picturesque title smacks of the literary guide-book rather than of village tradition. However, no one can dispute the bald statement that Tideswell Church is a fine cruciform building and is mostly of the fourteenth century. The place itself, according to Canon Fletcher, who read a paper on the church, was formerly one of the principal towns of Derbyshire, owing to its proximity to the Peak Forest, and was visited by many kings. Popular tradition as to the meaning of Tideswell is that it was originally "Tidingwell," and that the name was derived from an intermittent spring which existed till the last quarter of the eighteenth century, and was dependent on the tides. But the Canon did not accept that view at all, for it was really a natural syphon. This was believed as far back as 1780, for in the *Gentleman's Magazine* of that year a tourist records: "We proceeded to Tidswell, a singular pool that ebbs and flows. Soon after our arrival the water gushed from several cavities at once for the space of five minutes. The phenomenon is occasioned by the discharge of a subterranean reservoir supplied by springs through a channel in the form of a syphon." Professor Skeat has a much more reasonable derivation in his conjecture that it meant Tida's Wall, or the enclosure of Tida. In 1250 it became a market town, and through the thirteenth, fourteenth, and fifteenth centuries it was familiar to several of our kings, who made a temporary residence here as a hunting centre.

Tideswell was mentioned in Domesday, but it had no separate church or priest. The church was in existence from 1192. In 1223 it was given over to the Dean and Chapter of Lichfield. About that time there was constant litigation between the authorities of Lichfield and the Cluniac monks. In 1251 an effort was made to remove some of the monks' sheep, and such a fierce fight ensued in church and churchyard that all religious rites were suspended there on account of the bloodshed. By 1254 it had become a distinct parish. The remains of this original church can still be seen. Canon Fletcher thought there would be little doubt that its successor, the present building, was commenced in the middle of the fourteenth century. Possibly the chancel of the earlier church was retained for a time; the present chancel was finished at the time of the Black Death, and covered by a simple temporary roof, which remained till recently. The building was continued slowly westward, and was not finished until the erection of the embattled and pinnacled tower at the west end in the fifteenth century. This tower is frequently said to bear some resemblance to that of the chapel at Magdalen College, Oxford, but the claim must not be examined too critically.

The large chancel will repay considerable attention. As at Sawley, a stone screen behind the altar partitions off space for a vestry; fortunately it has escaped the proposed piercing of a second door to pair with that on its north side, for two doors would suggest a processional path rather than a vestry behind the screen. The oak chancel screen is, as to its lower portion, of the fourteenth century, the upper part is 1875. The eight square-headed side windows are unusual, and have won for the chancel the description, "one gallery of light and beauty." The fine east window was given by the Foljambes of the last century in memory of their ancestor of the fourteenth who founded the chancel, and who there lies buried. One of the most striking of the tombs is the brass to Robert Pursglove, prior of Guisborough and suffragan bishop of Hull (died 1579), which is conspicuous for the fact that he is shown in full mass vestments with mitre, crozier, and gloves. Doubtless this is out of recognition of his refusal to take the Oath of Supremacy in 1559, for he was one of the many bishops who were deprived because they would not conform, and who lived and died faithful adherents to

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the old Catholic religion. Tideswell-born and founder of the local Grammar School, he would probably be brought to Tideswell as being out of the way and unlikely to disturb those who were pushing the new order of things. More conspicuous is the table-tomb of Sir Sampson Meverel (died 1462), with a fine brass of the Trinity on the slab and a cadaver beneath it, whose inscription sets forth a long service abroad, which included "XI. great battayles in France within the space of two yeares," and begs the beholder "Devoutly of your charitie sayth a Pater Noster with an Ave for all pious souls and especially for the soul whose bones resteth under this stone." There are also interesting monuments to a knight, perhaps a Foljambe, and his wife (temp. Richard II.), to Sir John Foljambe (died 1358), and to Sir Robert Lytton and his wife. There were two chapels in the south transept; one, now carefully restored, belonged to the Lyttons; in the other are fifteenth-century alabaster effigies of Sir Thurston de Bower and his wife, which have been placed, comparatively recently, on a new table-tomb, and in doing so have been post-dated by about forty years. The five-light window in the south wall of this transept contains most beautiful tracery.

Mention must be made of the considerable amount of modern woodcarving which, we believe, is the product of local craftsmen, and is marked by restraint, good execution, and sufficient originality. It is indeed typical of the carefulness and sympathy imprinted by the most recent custodians on the whole fabric. The setting of this fine church is unworthy, for most of the cottages turn their backs on it.

The journey was then continued to

EYAM HALL.

This is a house of no great size, historical interest, or special importance, but nevertheless it was one of the most charming seen on the tour. Its special architectural feature is that of being untouched and entirely characteristic of the Stuart period, and a model of what simple good taste can achieve. Constructed of grey stone, it is in entire harmony with its setting, and seems to spring from the ground as naturally as the hollyhocks in its garden. It was built by Thomas Wright soon after the plague, the fabric being completed in 1676. A portion of an earlier building was incorporated as kitchens. It also contains a fine oak staircase with twisted balustrades from the old manor house. The hall has, we believe, never passed out of the occupation of the Wright family. It is separated from the village street by two modest forecourts, one of grass, the other, raised, of flagstones. The house is said to be an exact copy of, and built of the stone taken from, old Bradshaw Hall.

The village can boast of its bygone celebrities. One of these, who lived there at the beginning of last century, should be of interest to the profession, for he thus sets forth his accomplishments:—

"I, Richard Furness, schoolmaster, Dore,
Keep parish books and pay the poor,
Draw plans for buildings and indite
Letters for those who cannot write;

. . . . .

Paint sign-boards, cart-names, at command,
Survey and plot estates of land,
Collect at Easter one in ten,
And on the Sunday say 'Amen.'"

The most intimate connection of this highly versatile architect, doctor, musician, dentist, &c. (all of which qualifications are duly mentioned in the poem) with Eyam itself is that he had to flee from it as a bankrupt currier.

About 100 yards up the road is

EYAM CHURCH,

a small, unpretentious building which was subjected to drastic restorations in 1868 and 1882, and possessing historical rather than archæological interest. The work is mainly of the early fourteenth century, but the south aisle and the tower are of fifteenth-century date. The Norman font in use has been "restored," but a second font in the vestry, which was found in the adjoining woods about twenty years back, is considered to be certainly pre-Norman. In the vestry may also be seen a recently dug-up cinerary urn: when it was discovered the ashes still remained in it, but the workman dropped it and the urn was broken into a hundred pieces. The western tower and its bells were the gift of Madame Stafford—a family connected with Eyam for many centuries. The Staffords of the old Hall were settled here in the reign of King John, when their lands were held "by hereditary right for the free service of finding one lamp burning before the altar of St. Helen in the church of Eyam throughout the year during divine service." This practice was continued until about 150 years ago, and the present rector, who is connected with the family, confesses to conscience pricks as to whether he should not revive it.

But Eyam's primary claim to fame is in the heroism of its inhabitants during the Great Plague. In 1665 a box of plague-infected clothes from London was left at the village tailor's, who lived in one of the present Plague Cottages. Before the end of the month six people had died of it, and during the next four weeks twenty-three more were added to the list. The rector, William Mompesson, played a hero's part for more than a year, and obtained such an ascendancy over the villagers that they remained within their own parish for several months, in spite of the steadily increasing death roll, and so prevented the spread of the fell disease. The neighbouring villagers brought food to appointed places on the boundary, and picked up the purchase-money from out of the running trough. Mompesson would not use the church for fear of tainting it, and used to preach daily in a dell. One of the proudest monuments in the church is the carved oak chair from this good man's study, which was rescued many years afterwards from a second-hand shop in Liverpool, and is now placed in the sanctuary.

In the churchyard is a fine pre-Norman cross, the head and arms of which are still perfect, though the upper part of the shaft is unhappily missing. According to tradition, it was found on the moors and was later placed in its present position in the eighteenth century through the urging of Howard, the prison reformer. Near to the cross is the tomb of Catherine Mompesson, the wife of the heroic vicar just mentioned, who died while helping her husband to minister to the village folk. High up on the church wall close by is an elaborate sundial dated 1778.

After an interval for lunch the party were taken to Chatsworth. Here Mr. J. P. Maine, the librarian, was to act as guide. But owing to recent outrages no party numbering more than twenty-five are allowed to pass through the apartments under a single cicerone. Consequently the greater number of the members, including the present writer, who did not happen to squeeze through the gates in time to join the first batch, had to be content with the usual machine-made account of servants.

CHATSWORTH.

William the Conqueror gave this domain to his natural son William Peveril. Chatsworth was acquired in the sixteenth century by Sir William Cavendish, who began in 1570 the erection of a new house, continued after his death by his widow "Bess of Hardwick." The present residence was commenced in 1687 by William, fourth Earl and first Duke of Devonshire, under the direction of William Talman, advised by Sir Christopher Wren. The south front was the first work undertaken, followed by the east side, the great hall and staircase being roofed in 1690. The south gallery was rebuilt in 1703, and the north front in 1704. The whole building was finished in 1706. The best artists of the day, Verrio, Laguerre, Cibber, Tijou, and others, contributed to the painting, carving, and ironwork of this house. Campbell says of the interior that "for the quality of materials, neatness of execution, rich furniture, and all proper decorations, it is second to none in the kingdom, and perhaps in Europe." Mr. Reginald Blomfield, R.A., considers that "the faint praise is in this case justified. The plan, which is quadrangular, and ranged round a court 75 feet by 96 feet, is wasteful of space and material, and inconvenient—the elevations are ambitious, but miss the happy grace of Wren. The basement of the south elevation is not high enough for the order over it, and the key-blocks to the windows are (or were) of the most inordinate size. Talman, in fact, had no nice perception of scale or delicacy of handling." The great stables were built in 1758-63 from the designs of James Paine. In 1820, under the sixth Duke, Sir Jeffrey Wyatville added a great north wing to the original design—which some people consider it spoils—the work not being finished until 1840. Within the house contains a unique collection of paintings, statues, and other works of art, as well as the famous library, which includes the books of Henry Cavendish and the large collections founded by the sixth Duke. The casual visitor who sees, or tries to see, all these thousand things in a lightning personally conducted tour through the rooms

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may become amazed or indifferent as the mood takes him, but he can hope to get little profit.

The grounds of Chatsworth are famous for their extent and their contents. A great conservatory, designed by Sir Joseph Paxton, is considered its special glory. The waterworks, including a metal weeping willow, are claimed to be second only to Versailles.

In the evening a most interesting paper illustrated by lantern slides, on "Derbyshire Church Screens," was read by Mr. Aymer Vallance, M.A., F.S.A.

Wednesday, July 22.

Though the closing day's programme included no more than three visits, a start was made at 8:43 A.M. The train was taken to Chesterfield, and then the cars were boarded for

BARLBOROUGH HALL.

Mr. J. A. Gotch, F.S.A., F.R.I.B.A., who dealt with the building, gives the following account of it in his "Architecture of the Renaissance in England": "The house is built round a court, but an extremely small one, now filled with a modern staircase. All the windows look out into the open country. Instead of extending itself along the ground, the house provides its accommodation by extending itself vertically, and the kitchen and servants' rooms are placed in the basement. This was an idea introduced, it is said, from Italy, but it is one which, though sometimes met with, did not commend itself to Elizabethan builders when space was plentiful.

"The hall is on the principal floor, and is approached from outside up a long flight of steps. The screens led to the staircase which penetrated to the kitchen in the basement. The hall had its bay window at the dais end, from which the great chamber was approached. We have still, therefore, the old idea of the hall as a living room, and part of a series of rooms communicating with each other; not yet as an entrance from which the living rooms are approached. The detail at Barlborough is of a simple kind; the house was not of a large size, and did not require much elaboration. The actual Classic treatment is confined to the front door, which is flanked with columns. The parapet is battlemented, the strings are narrow, and the windows are not overwhelming in size. The roof is flat, and there are none of the gables which are so marked a feature of the time. Picturesqueness of outline, however, which was always sought for, is here obtained by carrying up the bay windows as turrets, a treatment which lends much distinction to an otherwise simple exterior. . . . At Barlborough there is a fine chimney-piece still fairly simple, in which the upper part is devoted to the owner's personal history. His name was Francis Rodes, a lawyer, and subsequently a Justice of the Common Pleas. He married twice. These facts are all set forth on the chimney-piece. His own arms, and those of his two wives, are carved at large, and the names of his wives are printed against their shields. The upper cornice is supported by two caryatides instead of columns, one of whom represents Justice in allusion to the calling of the master."

It is curious to find a local conviction that Barlborough Hall is the "Bracebridge Hall" of Washington Irving's sketches. For it cannot possibly be reconciled with his description: "It was an irregular building of some magnitude, and seemed to be of the architecture of different periods. One wing was evidently very ancient, with heavy stone-shafted bow-windows jutting out and overrun with ivy, . . . The rest of the house was in the French taste of Charles II.'s time."

The house was built in 1583-4, and is still in possession of the Rodes family, though the century-old baronetcy became extinct in 1743, on the death of Sir John, fourth baronet, and the present family is descended from his sister Frances, who married Gilbert Heathcote, and whose grandson succeeded Sir John and took the name of Rodes in 1776.

In Barlborough village two quaint customs connected with the five fifteenth-century church bells are, or certainly were until very recently, kept up. At twelve o'clock every day (Sundays excepted) a bell is rung for about five minutes, but they are silent on week-days from Christmas Day to the Epiphany. The second old practice is that at eleven o'clock on Shrove Tuesday a bell gives the signal for the housewives to put their pancakes on the fire.

A journey of about half an hour brought the party to

BOLSOVER CASTLE.

Mr. J. A. Gotch here read the following paper:—

It is here at Bolsover that we first come into contact with that grand old woman of Derbyshire—Bess of Hardwick. Yet the contact is not very close, in spite of the old tale that she built part of the work here and died during a frost that stopped the building, thus fulfilling the prophecy that as long as she continued building so long would she continue to live. For, in fact, she died in 1607, some years before any of the existing work was begun at Bolsover. She had some connection with the place, however, for the last of her four husbands was George Talbot, sixth Earl of Shrewsbury, to whom Edward VI. had granted Bolsover in 1553. One of her daughters by a former husband, Mary, married Gilbert Talbot, a son of George by his first wife. Gilbert Talbot eventually became seventh Earl of Shrewsbury and the owner of Bolsover, and in the year 1613 he sold it to his wife's brother, Sir Charles Cavendish. It was this Sir Charles who began the buildings which we see to-day.

The buildings divide themselves into three parts. First, the castellated portion; second, the long range on the terrace; and, third, the riding-school. It was the castellated portion which was built by Sir Charles Cavendish, and the accounts extend from November 1612 to March 1614. Bolsover Castle had been in existence since the days of the Conqueror, and some writers have supposed that the castellated building actually retains much of the mediæval work; but there seems to be nothing in the visible structure earlier than the time of Sir Charles Cavendish. The vaulting has led some people astray, but the vaulting is of the seventeenth century, and is all the more interesting on that account, because it was a mode of construction not often employed at that period. It must be agreed that the seventeenth century masons were even more careful than their mediæval predecessors to finish their vaulting ribs neatly on to the capitals and corbels from which they spring.

This much may be conceded to those who are ever anxious to endow buildings with all possible (and impossible) antiquity—that Sir Charles Cavendish's building occupies the site of the ancient keep, and very likely derives its size and shape from its predecessor. The garden, too, is enclosed by the ancient bailey-wall, or by one rebuilt on its foundations. Rebuilt in part, at any rate, it must have been, for it contains little chambers neatly fashioned in the style of 1613 or thereabouts.

The building contains some more or less remarkable features. There is the vaulting very neatly and carefully designed; there are panelled walls of varying degrees of richness; there are painted walls and ceilings; and there is a series of very remarkable chimney-pieces, all designed for their positions, and many of them bearing the arms and badges of the Cavendishes and Talbots and their alliances. Cavendish and Ogle occur most frequently, Sir Charles having married for his second wife Katherine, daughter of Lord Ogle.

Sir Charles died in 1617 and was succeeded by his son, Sir William, who must have continued the work of building, for one of the chimney-pieces bears his arms and those of his wife, Elizabeth Basset. As the same chimney-piece (that in the pillar room) also bears the Cavendish snake surmounted by a viscount's coronet, its date must be between 1620 and 1628, for in the former year Sir William became a viscount and in the latter an earl.

With the advent of Sir William one can turn to the second building of the series, that on the terrace, known as "The Gallery." Doubtless with his increasing grandeur he found his father's house too small, and therefore resolved to build a larger one. He was made an earl in 1628; the basement of the new building bears date stones of 1629 and 1630. It is not merely a gallery, an adjunct to the older house, but a house complete in itself with a kitchen, but the most important rooms were those at the further end.

This building is rather puzzling, for it exhibits two distinct architectural styles. The part nearest to the older house, the successor of the keep, is simple and plain and accords with the style of the older house. It is this part which is dated 1629-30. The further portion where the large rooms are is more grandiose in style, and must either have been designed by a different architect or by one who had changed the character of his work. There was a family of architects residing in Bolsover at that time called Smithson, and one of them left a very important series of architectural drawings now in possession of the Cokes of Brookhill Hall. Among these drawings are several relating to the older building, the castellated portion, and there is also one

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which is a detail drawing of the principal doorway on the terrace. These drawings are attributed to John Smithson who died in 1634, and he might therefore very reasonably be credited with the earlier and simpler work. He had a son named Huntingdon Smithson, and to him might reasonably be credited the later and more grandiose part. There is an archway dated 1633 joining the building on the terrace with the bailey wall. If this indicates the termination of the building work, then John Smithson might have designed the whole, giving to the later work a character different from the earlier. In any case the circumstances of the time fix a limit to the possible dates. During the Civil War, in 1644, the castle was taken by the Parliamentarians, the Earl being a zealous Royalist. It is impossible, therefore, that any building could have been going on after, say, 1642, until the Restoration in 1660. But the whole building was completed before 1658, because it is figured in a book on horsemanship published by the Earl in that year. It must, therefore, have been finished before the Civil War began. It would seem as if the later work should be attributed to Huntingdon Smithson between his father's death in 1634 and the outbreak of hostilities. The date stones already mentioned also bear initials; among them are H. S., which may very well be those of Huntingdon Smithson; but there are four other stones of equal importance bearing other initials. Huntingdon died in 1648.

The third building of the series—the Riding School—must also have been built before the war, but whether by Huntingdon Smithson or not it is difficult to say. Among the Smithson drawings are one or two of riding schools, one being at Welbeck. It is a charming building, more restrained in detail than the later part of the "Gallery," and yet analogous to it in character. The question is, Could the designer of the "Gallery," on beholding the effect of his pompous and extravagant detail in that building, have sobered himself down to the restraint and dignity of the Riding School? If not, who was the man employed to design it with the Smithsons close at hand in the town?

Quite apart from any question of the identity of the designer, as raised by Mr. Gotch, Bolsover offers many minor puzzles as to its interior arrangement, for the rooms are multitudinous and confusing.

It is worth recalling that Sir William Cavendish, who built the Riding School and stables and was created Marquis of Newcastle, entertained Charles I. here in 1633 at a cost of £4,000. The hospitality was repeated the following year at the request of the Queen, though this time the cost reached £14,000. Ben Jonson wrote his masque, "Love's Welcome," for the occasion.

A move was next made into the village for lunch. Before that meal was over a vote of thanks was accorded to Sir Henry Howorth, the President, and to Mr. G. D. Hardinge-Tyler, the indefatigable Secretary, for their labours in making the summer meeting a complete success. This was proposed by Mr. J. H. Etherington Smith and seconded by Monsieur Lefevre Pontalis.

The final item on the programme was Hardwick Hall, and here Mr. Gotch read the following paper:—

Hardwick Hall.

If at Bolsover we catch a glimpse of Bess of Hardwick, here we meet her face to face, for she built both these houses, the old and the new. Hardwick Hall (the new one) is in many respects a typical example of the great houses of Elizabeth's time—in its symmetry, in its large windows, and in its detail. But it is not so cleverly planned as many of its contemporaries, as most of John Thorpe's designs, for instance, and the detail of the inside work is heavy and less interesting than usual. In one respect it is particularly disappointing; it has no fine staircase, merely flights of steps without any of the lofty newels, bold handrails, and stout balusters that give a romantic charm to many contemporary houses.

It is a curious fact that the old hall and the new were building at the same time; at any rate the new was begun before the old was finished. Nobody has explained why Bess of Hardwick, who practically rebuilt her father's house, should have started this new one close by it while it was still unfinished. Possibly a desire to be thoroughly in the fashion, coupled with an access of fortune on the death of her last husband in 1590, may be the explanation. But it seems clear from the building accounts, which Mr. Stallybrass has recently published in *Archæologia*, that the new hall was begun early in 1591, if not actually in 1590. The date hitherto assigned for the building was 1576, but the additional fourteen years which Mr. Stallybrass's researches have introduced help to explain the particular disposition of the great hall, which does not conform to the ancient traditions of house-planning. These would have placed it lengthwise with the building and given it an entrance at the end of one of its long sides; it is actually placed transversely to the length of the house and is entered at one of its ends. Such an arrangement would be less surprising in 1590 or 1591 than it would have been in 1576. In any case it is a novel disposition worthy of remark.

The old hall is of considerable interest and retains fragments of excellent work. Many of the workmen employed upon it were transferred to the new hall and their names are recorded in the accounts. They were all Englishmen and may be considered typical of their time—clever men who were working in a style which they did not thoroughly understand and had not quite mastered; men who so far as they missed the mark, missed it not from want of ability but from a lack of training. Abraham Smith may be credited with the great frieze in the Presence Chamber; Thomas Accres with many of the chimney-pieces; John Marker with the ceiling and cornice in the Long Gallery; William Bromley with much of the panelling. These are some of the craftsmen who, at a wage of from 8*d.* to 14*d.* a day, adorned with their own hands and their own conceptions one of the most notable of Elizabethan houses.

Looking at the house from the outside the most notable features are its rigid symmetry (contrasting markedly in this respect with its slightly older neighbour) and its innumerable windows. What a change they indicate from the fashion of fifty years before! Here there is no thought of defence, no remnant of the gloom which inevitably went with a fortified house. Even the wall of the forecourt and the entrance lodge were not built to resist attack, but merely to make the house private and perhaps to repel the sturdy beggars who sometimes infested the countryside.

The inside is as cheerful as the out, thanks to the windows. Indeed, so many windows did the claims of symmetry demand that not a few of them are shams. The most important rooms are the great hall, two storeys high, the dining and drawing rooms on the first floor, and the splendid series on the second floor, which includes the long gallery, the presence chamber, the library, and a small room called after Mary Queen of Scots. A word of warning must here be said as to Mary Queen of Scots' room. She was beheaded in 1587, some years before this house was begun, so she never could have seen it, much less have lived in it. If only people could be content with the truth about these old houses; if only they would not add needless centuries to their age, would not people them with figures which had left the stage before they were built, would not perpetuate absurd and ignorant tales like the elopement of Dorothy Vernon, how much confusion should we be spared, how much easier would be the path of the student. But, alas! it is the mists of ignorance that give the rainbow hues to romance, and it is only ardent seekers after truth, like archæologists, who can bear to see them dispelled.

So much for the general history as retold by Mr. Gotch. The contents of Hardwick Hall might well be dealt with in detail if space permitted. Such large features as the chimneypieces are of special interest; as at Bolsover, that of almost each room is varied; indeed, here they are as a rule larger and of better execution. Probably the tapestry is equal to that of any house in the kingdom and is of widely differing dates. Other objects of interest are the chairs, chests, portraits, tables, and beds. A particularly notable apartment is the big Presence Chamber with its painted plaster frieze 6 or 7 feet deep by Abraham Smith, and the gorgeous tapestry below. It does not need the rhyme to emphasise the fact that there is, or seems to be, more glass than wall. It has been suggested that it was designed to ascertain how little of stone and how much of glass might possibly be combined together in the formation of a splendid edifice. The gallery has eighteen windows on one side, it is said, each having 1,500 panes.

Hardwick Hall is a splendid place to pass an afternoon at, and a splendid place also to end up a summer meeting at, for it cannot but delight the most jaded sightseer, and epitomises the attractions of the county. Dr. Cox boldly claims that "Derbyshire still retains within its borders the most beautiful inland scenery of all England, and has an archæological and architectural history of far more varied interest, in proportion to its area, than any other shire in

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the kingdom." Lord Byron's tribute is a no less generous one, and it will convey the present writer's homage, "I assure you there are things in Derbyshire as noble as in Greece and Switzerland."

SEASIDE AMENITIES.

At the sitting of the Engineers' and Surveyors' Section of the Royal Sanitary Institute Conference at Blackpool on August 8, under the chairmanship of Mr. J. S. Brodie (Borough Engineer, Blackpool), Mr. J. W. Hipwood read a paper on "Seaside Amenities," of which the following is an abstract:—

In introducing this subject for the consideration of this Conference, the author proposes briefly to deal with some of the subjects which require special attention by the engineers and surveyors to seaside health resorts.

They may in many cases appear to be of comparatively little importance, yet their summation may make all the difference in the impression formed by the "man in the street," and on these small points may depend the success or failure of a health resort to keep its place in the popular favour.

The primary reason for the existence of a health resort being the restoration to, or the improvement and maintenance of, the health of the visitor and the health-seeking resident, it is very necessary for the engineer to take into special consideration all municipal matters and details which may affect the health both of the body and the mind of the individual, and in particular bearing in mind the nervous system.

The elimination, or at any rate the reduction to a minimum, of unnecessary noises is one of the first essentials to be aimed at.

In the matter of road-making much can be done in the selection or improvement of road surfaces, so that the minimum of noise is experienced.

Among the primary requirements is that of spaciousness, which includes the provision of wide open spaces, promenades or boulevards.

Promenades.—We have given us by Nature at health resorts all the health-giving advantages of ozone-laden breezes from the sea and sands.

A wide promenade enables visitors to enjoy the air, sunshine, and view to advantage, without the discomfort of draughts or eddies.

As a general rule, therefore, no engineer should hesitate to recommend his Council to go seawards and widen their promenades wherever there is not already ample provision of air and sunshine space.

So that the sea air may be enjoyed in all its purity, it is further desirable that promenades for pedestrians should be constructed next to the sea wall, wide enough to allow of the passage of countless thousands of promenaders, without their interfering with the enjoyment of those who may prefer to sit at the sides of such promenades enjoying the sunshine, the air, and the ever-changing kaleidoscope of dress colours during church parade or similar occasions.

Gardens.—So that the visitors may be further assured of freedom from dust or noises, it is very advantageous, wherever possible, to interpose between the foot promenade and the roadway a zone of vegetation, in the laying out of which much charm of variety and eye pleasure may be obtained. Nothing satisfies or relieves the eye so quickly as a stretch of well-kept greensward, and this should be the essential feature aimed at.

Public seaside gardens being naturally somewhat restricted as to width, the author is of opinion that a formal and balanced treatment is preferable to a treatment involving the construction of numerous tortuous paths, which often show very little reason for their existence.

An effective result is to be obtained by forming recesses in the fences sufficiently large to contain a garden seat of one or other of the excellent types prevalent at the end of the eighteenth century.

A mass of shrubs at the rear forms a pleasing setting to the picture. Garden arches, and even pergolas, can also be introduced with success in seaside gardens.

It is surprising what a number of shrubs can be selected as eminently suited for planting on the sea border, and which thrive even when frequently subjected to sea spray.

The most successful is the Euonymus, which with its golden variety interspersed with the green forms a brilliant bordering in the most exposed positions.

Among others, the following will be found to be the most useful for the North-west coast: Green and Golden Privets, Olearia Haastii, Tamarisk, Osmanthus, Golden Laburnum, Golden Elder, Sea Buckthorn, Lilac, and Aucuba.

In the formation of flower beds the author believes in providing massed colour effects and in the very careful selection of the plants used, those with the richest colours being the most pleasing and popular.

The public gardeners should, however, always be discouraged in the practice of cutting up the greensward for the purpose of dotting about meaninglessly-shaped flower beds.

A promenade is to a health resort what a shop window is to a business, and the town's success is often judged accordingly.

Notice Boards.—One frequently notices what would otherwise be a pleasing vista disfigured by notice boards, time tables, placards, or other bill-posting stations of various descriptions. It may not always be possible to obtain their removal, but their grouping or transference to a more appropriate position can generally be arranged to the mutual advantage of all.

Seating.—A subject of considerable importance in all popular health resorts is the provision of seating on promenades.

In the selection of the seating a vast improvement in the effect can be obtained by the fixing of garden seating or furniture of good design, instead of those having the iron scroll arms at the end and the usual plank seating.

Shelters.—Again, relating to covered seating, both for the sake of the general public and particularly affecting invalids, it is very desirable for all shelters to have accommodation suitable for use in wet or windy weather, whatever the direction of the wind, as thereby dry and draughtless seating is obtained. As in the choice of seats, the designs should be simple and straightforward, all ornateness being avoided.

An unusual form of covering, which gives, the author finds, very satisfactory results, and is a pleasing contrast from lead or zinc, is that of oak or teak shingle, stained with Carbolineum or similar solution.

Bandstands.—Forming a central or prominent feature of many public gardens we have bandstands, of more or less useful or ornamental designs. The criticism to which they are mostly open is their ornateness and lack of shelter for the performers in inclement weather.

As the sun is not always shining, even on the North-west coast of England, it is essential to provide sufficient shelter from the elements to ensure comfort and health.

The most effective and simplest method known to the author is the provision of sliding screens, which are made in narrow sections and hung to run on an overhead track running round the outer edge of the ceiling and with a track guide round the floor of the bandstand.

If the upper two-thirds of the screen is glazed very little interference with the view is effected, besides adding character to the bandstand itself.

Street Tree Planting.—Before leaving the subject of gardens it would be as well to refer to the matter of street tree planting.

The planting of all streets wherever possible with street trees exercises a more favourable, though probably unconscious, influence upon the visitors than any improvements of much greater magnitude and expense.

List of Street Trees.—The following are the trees which have proved most successful at Morecambe, and are placed in order of merit:—Wych Elm, Cornish Elm, Lime, Sycamore, Lombardy Poplar.

Sewerage System.—Passing on to the subject of sanitation, it is, of course, a *sine quâ non* for a seaside resort to possess a sewerage system above suspicion, and no effort should be spared to prevent any complaint arising either from house drainage or sewers or sewage-disposal works.

Refuse Collection and Disposal.—One other reference to sanitary matters may perhaps be permitted. The daily collection of house refuse in properly covered low-bodied refuse carts is of primary importance in a seaside town during the season. With the refuse so collected, taken direct to the destructor cell and burnt up the same day, no nuisance should arise either in the streets or at the destructor.

Sea Walls.—The construction and maintenance of sea walls is another interesting subject to seaside engineers, but perhaps hardly comes under the description of an amenity There are, however, one or two details in their construction which do.

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Steps and Slipways.—The formation of sufficient steps and slipways is necessary for access to the shore, and where these are constructed along the face of the wall much greater convenience is obtained for children and invalids than where the steps stretch steeply down the face of the wall.

Semicircular bays projected seawards from the sea wall are generally appreciated as affording additional seating accommodation, and may be used for the erection of shelters.

Sands.—The sands are, of course, the most generally popular places of recreation for all ages, and no effort should be spared by the authority in keeping them clean and scavenged, well controlled and patrolled. Life-buoys placed at frequent intervals along the promenade are also a first necessity.

Allocation of Areas.—Special spaces should be allocated for services, public meetings, crèches, pierrot troupes, stalls, donkey stands, &c., but the best positions should be kept clear for the enjoyment of the general public.

Sand-castle Competitions.—Sand-castle competitions are amongst the minor details which a surveyor may be called upon to provide for. Under proper supervision, and by roping off special areas, they are invariably a success if carried out shortly after the tide has receded, when the sands are in the best condition for modelling.

Groynes.—Where there is any scarcity of sands the area may frequently be increased by the erection of low "Case" groynes, which should, as a rule, lie at right angles to the shore.

Bathing Pools.—Open bathing pools, with separate dressing-box accommodation for each sex, are also a great attraction to a seaside resort. Their cost of construction, as well as maintenance, is usually comparatively small.

Marine Lakes.—The construction of marine lakes is a question which, as a rule, only arises in the cases of seaside towns where a considerable distance exists between the high and low water marks. Their advantages, however, are likely to be somewhat counterbalanced by the difficulties of cleansing and in changing the water.

Meteorological Station.—A very necessary adjunct to municipal enterprise at the seaside is the meteorological station, which should be located in such a position as to meet all necessary requirements for the observations, as well as to provide the public with complete information daily.

Roads.—In the matter of roads, all seaside towns will, no doubt, unite in constructing and maintaining their roads in as perfect and dustless a condition as possible. With this object in view the surface drainage must be complete.

The author holds a strong opinion that drainage is the most important consideration in the maintenance of roads. Where this is deficient, deterioration and an early break-up of the road crust inevitably follow.

Tar macadam or wood-block roads will lead in popularity for promenade and main street work, as affording freedom from dust or noise; but tar-sprayed and well-drained granite roads follow quickly after as a cheaper and efficient substitute.

Substitute for Tar-spraying.—For the purpose of rendering any roads dustless, where the cost of tar-spraying is too great, the author has used for some few seasons a patented compound which acts as a germicide, and can be applied with an ordinary water-cart. It consists chiefly of rosin, caustic soda, creosote, and pitch.

Street Watering.—Where roads are tar-sprayed and are otherwise kept dustless by constant cleansing and scavenging during very hot weather, considerable relief is afforded to crowded promenaders by the free use of the watering cart on such roads, the resulting evaporation cooling and freshening the atmosphere.

Fountains.—During the summer the free use of public drinking fountains on the sea front are amongst the most welcomed minor conveniences provided by a municipality.

Public Lavatories.—Among the more important items is the plentiful provision of public lavatories or underground conveniences and cloak-rooms.

Ample entrances and exits should be provided, and everything constructed on the most sanitary lines. The nearer they are constructed to "hospital" lines the better.

Fan ventilation, driven by the water which is being continually used for flushing, can be adopted without any extra cost in the water bill.

Paints and Enamels.—On the subject of paints and enamels used on seaside public property, it is well to mention the influence resulting from the use of the best materials and appropriate colour schemes. Red oxide paints may be very lasting and a good preservative of sea-splashed ironwork, but its colour is depressing in the extreme. As, however, genuine English white lead or zinc white can be used as the basis of most paints, equally enduring and much more pleasing effects can be obtained by their use for all coats except the first.

Green, gold, ivory, cream, or white always please the eye, and if employed in simple colour schemes satisfactory results will ensue. Enamelled or varnished finishing coats prove a decided economy in the long run, and retain their freshness a much longer time than an ordinary coat.

Flagstaffs.—Flagstaffs are essentially a feature of seaside resorts. Placed in appropriate positions they may be made both useful and ornamental; they are generally constructed in pitch pine and varnished, though not infrequently painted white. Surmounted by the indispensable weather vane, they are also useful for the hoisting of the cone used for weather warnings to sailors and fishermen. In fine weather, or on special occasions, it is made attractive by the hoisting of the flags, ensigns, or signal codes.

Arc Lighting.—No modern seaside health resort appears to be completely up to date unless it has included in its attractions a scheme of promenade arc-lamp lighting or high-pressure gas lighting. Particularly where the outline of the shore is curved or forms a bay such lighting certainly has a glamour of its own, especially at high water.

Fairy-lamp Lighting.—It is not necessary at such a prominent health resort as Blackpool to more than refer to the grasp on the popular fancy that schemes of electric bulb or fairy lighting of the promenades and gardens possess; you have an admirable example before you. Glass bucket lamps of various colours, with candles to last three or four hours, are also often used for the decorative illumination of rockeries and flower beds, or for festoons and floral devices.

Street Lighting.—For street lighting the author has favoured incandescent gas lamps in preference to electric incandescent metallic filament lamps, although the healthy competition between the two forms of lighting may at any time alter that opinion.

Horses.—Similarly, with regard to the carters, pride in the condition of their horses and carts is fostered by the annual holding of a Corporation May-Day competition and procession, and the awarding of prizes by various members of the Council..

Town Planning.—Town planning is, of course, one of the largest amenities affecting seaside towns.

As, however, the matter is being so thoroughly discussed at the present time, only a brief reference need be made to it.

Most seaside towns are in the unfortunate position of being more or less a terminus, and the means of approach are therefore generally insufficient to cope with the altered conditions of traffic consequent upon the immense strides made in the development of the motor vehicle. Whereas railway development has practically reached its limit for most seaside resorts, the development of their approach roads still remains largely to be dealt with.

It is therefore a prime necessity that the vision of each seaside municipality and its engineer should be sufficiently far-seeing to make provision for ample and easy access being provided from the nearest main trunk roads or large cities into their towns.

Discussion.

The President remarked that the paper was by a man whose town of Morecambe spoke well for his good taste.

Mr. Munce (Belfast), in proposing a vote of thanks to the author, said that, in regard to pavement, he considered that at the present day the chief trouble was rather with noise than with dust. He thought there should be something done in the way of compelling all vehicles to undergo a test before they were put on the roads, for this would greatly tend to lessen the noise.

Mr. Price (Lytham), in seconding the motion, congratulated the author on the work he had carried out at Morecambe. With regard to the planting of shrubs, there was an idea in Blackpool that they could not grow shrubs by the seaside. The same idea was prevalent when he was at Brighton, but since he had left they had been very successful in the planting of shrubs. The great thing was to give them adequate protection, and he did not see why they should not get a lot of trees at Blackpool, although he knew they had tried and had not been successful. He thought that formal planning of gardens on the front was what they must have if they would be successful, for if they attempted to imitate Nature the whole thing was a sham, and people saw it. Bandstands, he considered, should be kept as simple as possible, and they did not want so much ornament as some of the manufacturers put on the market. He had often wondered why Blackpool did not go in for bathing pools.

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Mr. Lumb (Fleetpool) remarked that if the visitors came in the autumn and saw some of the storms they had to contend with they would quite realise the difficulty of tree-planting. He advocated the offering of prizes to private owners for beautifying gardens as a good means of getting greenery at a seaside resort.

Mr. Pain (Liverpool) said that marine lakes were an interesting example of the fact that saturated sand was water-holding. Secondly, they had the great advantage of affording to novices the opportunity of acquiring the art of navigation, and bathing could also be enjoyed under very favourable circumstances. Marine lakes also afforded an attraction to the onlookers, and added to the interest of the view by relieving the monotony of an otherwise unlimited expanse of sand.

Mr. Race (Borough Engineer, Barrow-in-Furness) said that what pleased him about the works at Morecambe was that, besides being works of great utility, they had been carried out in real good taste. This was a side of the work which was of great importance in all towns, and particularly in seaside and other holiday resorts, but was one which the municipal engineer sometimes neglected. Another matter was the lack of design about various erections in public highways. The Highways Department should exercise full control over all poles and other erections as far as practicable in and abutting upon highways. Another criticism about seaside towns was that they were apt to concentrate their efforts upon the promenade, and neglect all minor streets.

The Chairman said that the lack of trees at Blackpool was due to the storms they experienced.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Slough.—Four houses, Alexandra Road, for Mr. N. Grove.
Two houses, Henry Road, for Mr. J. Hibberd.
Two houses, Wellington Street, for Mr. T. Perrin.
Four houses, Wellington Street, for Mr. Woolsey.

DERBYSHIRE.

Derby.—St. Helen's Inn, Duffield Road: rebuilding. Mr. A. Eaton, architect, 6 St. James's Street.
Shirebrook.—Working-class houses, for Blackwell R.D.C.

DORSET.

King's Stag.—Mission Church.

DURHAM.

Durham.—Workhouse: infirmary. Messrs. W. & T. R. Milburn, FF.R.I.B.A., architects, 19 Fawcett Street, Sunderland.
Ebchester.—Two houses, for Mr. Cawthorn.
Houghton-le-Spring. — Banking premises, Newbottle Street, for Messrs. Barclay & Co., Ltd.
Proposed new Post Office, Newbottle Street.
New Seaham.—Miners' homes. Mr. J. W. Claxton, architect.
Shotton.—Proposed fifty houses, for Easington R.D.C.
Sunderland.—Bede Boys' Collegiate School, High Barnes Estate. Messrs. Milburn, architects (as above).

ESSEX.

Barking.—Thirty artisans' dwellings, Gascoigne Road. Messrs. Clement & Son, Ltd., contractors (£6,340).
Coggeshall.—Council School for 200 places. Messrs. J. Smith & Son, contractors, Chipping Hill, Witham (£2,600).
Purleigh.—Council School for 160 places. Mr. T. J. Bailey, contractor, Anchor Street, Chelmsford (£2,074).
Sible Hedingham.—County Smallpox Hospital. Mr. N. J. Avey, architect.
Southend-on-Sea.—Tuberculosis Hospital for forty beds.

GLOUCESTERSHIRE.

Bristol.—St. Stephen's Church: restoration (£3,500 to £4,000). Messrs. Paul & James, F.R.I.B.A., architects, 31 Nicholas Street.

KENT.

Sevenoaks.—Public Baths.

LANCASHIRE.

Accrington.—R.C. Church, St. Anne's.
Atherton.—Mission Church, Crosby Street.
Crompton.—Technical School, High Street. Mr. H. Littler, County architect, 16 Ribblesdale Place.
Failsworth. — Public Baths. Messrs. Woodhouse (F.R.I.B.A.) & Howard, architects, Manchester.
Irlam.—Technical School (£11,000). Mr. Littler, architect (as above).
Patricroft.—Cinematograph Theatre, Liverpool Road. Messrs. J. B. & W. Thornley, architects, Library Street, Wigan.

LINCOLNSHIRE.

Scotherne.—Boys' Home: additions and alterations, for Lincoln Board of Guardians. Mr. W. G. Watkins, architect, St. Edmond's Chambers, Silver Street, Lincoln.
Skegness.—Houses, Ocean Avenue, for Mr. J. Carter.
House, Drummond Road, for Mr. H. Betts.
House, Drummond Road, for Mr. F. A. Shafto.
Five houses, Grosvenor Road, for Mr. W. Boulton.

MONMOUTHSHIRE.

Blaenavon.—Workmen's houses.

NORFOLK.

Holme.—Parish Institute. Mr. H. G. Ibberson, F.R.I.B.A., architect, 9 Old Square, Lincoln's Inn, London.

NORTHAMPTONSHIRE.

Irthlingborough.—Engine-house, for Messrs. Hobbs & Co.
Two houses, Queen Street, for Mr. Bigley.
Picture Palace, College Street, for Mr. J. Inwards.

RUTLAND.

Oakham.—Four houses, Brook Road, for Mr. J. Hibbett.
School, Church Street: master's house.

SOMERSET.

Bishop's Lydeard.—Church tower: restoration. Mr. Samson, architect, 1 Hammet Street, Taunton. Messrs. H. J. Spiller & Son, contractors, 31 Bridge Street, Taunton.
Taunton.—Proposed Public Baths.

STAFFORDSHIRE.

Burton-on-Trent.—Destructor Works: extensions (£2,500).
Cheadle.—Cottage Homes, for the Board of Guardians (£2,000).

SUFFOLK.

Cranley.—Four cottages, Town Farm (£750). Messrs. Morgan & Buckingham, A.R.I.B.A., architects, 1 Upper King Street, Norwich (also at Diss).

SUSSEX.

Bognor.—Three houses, Havelock Road, for Mr. A. V. Booker.
St. Michael's School, Upper Bognor: additions and alterations.
Horsham.—House, Depôt Road. Messrs. Hillman & Murrell, builders, Clarence Road.
Proposed Girls' High School.
Kirdford.—Council School for 110 places.
Lancing.—Parish Hall. Mr. H. M. Potter, architect, 41A Warwick Street, Worthing.

WARWICKSHIRE.

Kenilworth.—Twenty-four workmen's cottages (£4,500).
Nuneaton.—Eighty workmen's houses.

WILTSHIRE.

Chittoe.—P.M. Schools. Mr. A. J. Randell, architect, 16 Market Place.
Devizes.—Council School for 360 places.

WORCESTERSHIRE.

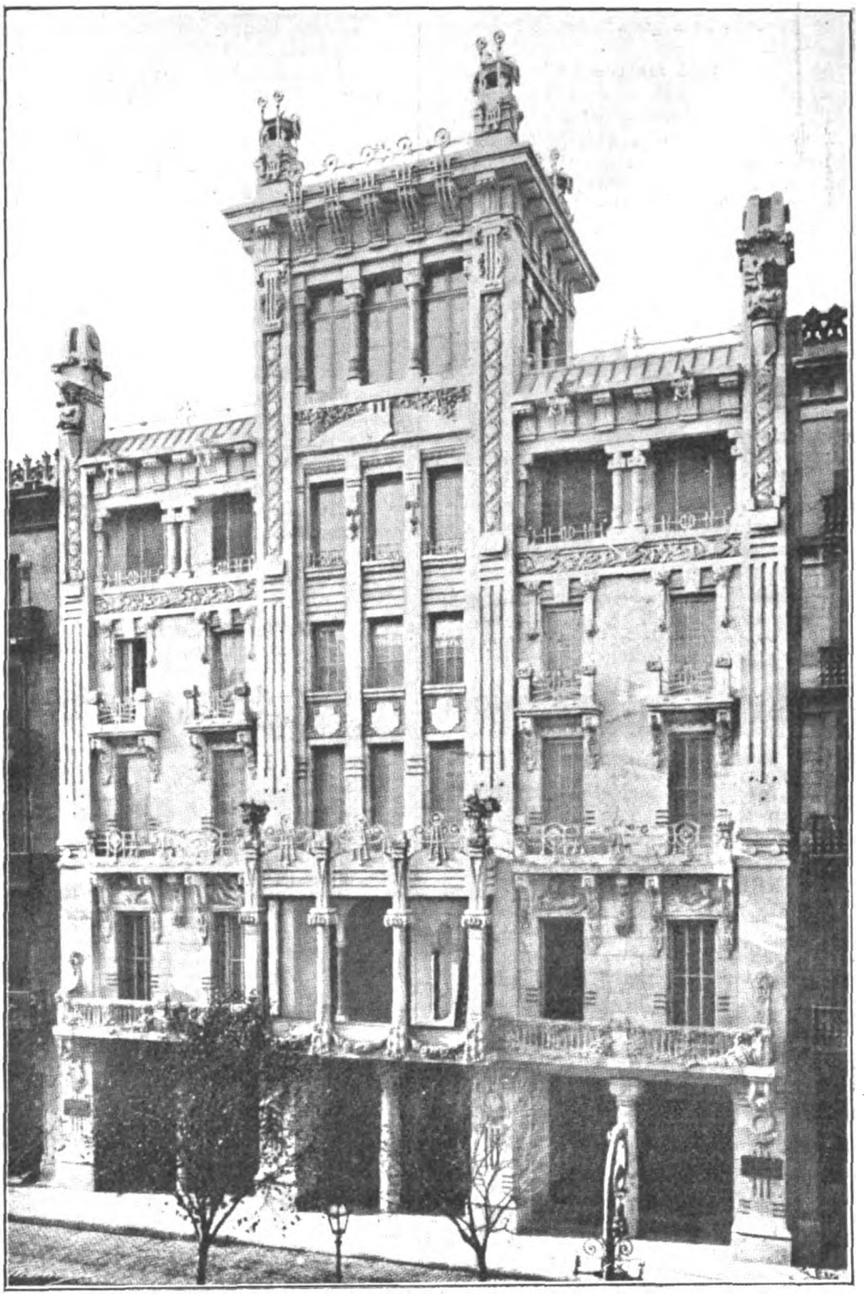
Powick.—House, Twigbeds. Mr. Jones, architect; Mr. T. Duckworth, contractor.

YORKSHIRE.

Askern.—Parish Church: Hall.
Carcroft.—Wesleyan Church and Schools. Mr. O. M. Thorp, architect, 133 College Street, Long Eaton.
Crofton.—Thirteen cottages, Doncaster Road and Station Approach, for the Lancashire and Yorkshire Railway Company.
Grassington.—Parochial Hall.
Halifax.—Tramways Parcels Office, Upper George Yard: additions and alterations. Mr. J. Lord, M.I.C.E., Borough engineer, Town Hall.
Hemsworth.—Fifteen houses, for Mr. W. Hanley.
Cinema Theatre, for Messrs. Turner & Greenwood.
Hull.—Sanatorium and hospital, Cottingham Castle Estate (£14,500).

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MODERN EUROPEAN ARCHITECTURE.
SPAIN.



[From *Arquitectura y Construccion.*

THE EAGLE HOUSE, BARCELONA.—Don Alejandro Soler y March, Architect.

ENGLAND—*continued.*

YORKSHIRE—*continued.*

Keighley.—R.C. School, Ingrow, for 320 places.

Sheffield.—Baths Central Laundry (£3,000).
Baths, &c., Hillsborough and Walkley (£15,000).
Abbey Lane Cemetery: proposed buildings (£7,000).
Fifty-nine Council houses, Wincobank Estate (£10,230).

Wortley.—Proposed smallpox hospital (£1,500).

WALES.

Aberystwyth.—Town Hall: proposed rebuilding.
Proposed workmen's dwellings.

Pontypridd.—St. Matthew's Vicarage. Messrs. Lewis & Walters, architects, Market Street.

SCOTLAND.

Barr.—Joint Sanatorium, for Stirlingshire and Clackmannan.

Dumbarton.—Notre Dame Academy, Clerkhill: female academy.

Dundee.—Cottage, Woodburne Street, for Mr. W. M'Kenzie.
Property, Strathmartine Road: addition, for Mr. J. Melville.

Edinburgh.—Three hostels, Crawford and Lady Roads, East Craigmillar Park (£40,000), for the Edinburgh Provincial Association for the provision of hostels for women students.
W.M. Halls, Nicolson Square, for 580 sittings (£5,000).

Glasgow.—Colour factory, Glenpark Street: additions, for Messrs. Hinshelwood & Co., Ltd.
Premises, Norse Road, Scotstoun, for Scotstoun Estate Building Co.
Works, Shuna Street, additions, for Messrs. M'Lellan & Co., Maryhill.
Workshop, Glenpark Road, for Messrs. Richmond & Sons.

Langholm.—Picture House, corner of Caroline and Henry Streets, for Captain Sanders (of East Garth, Northumberland).

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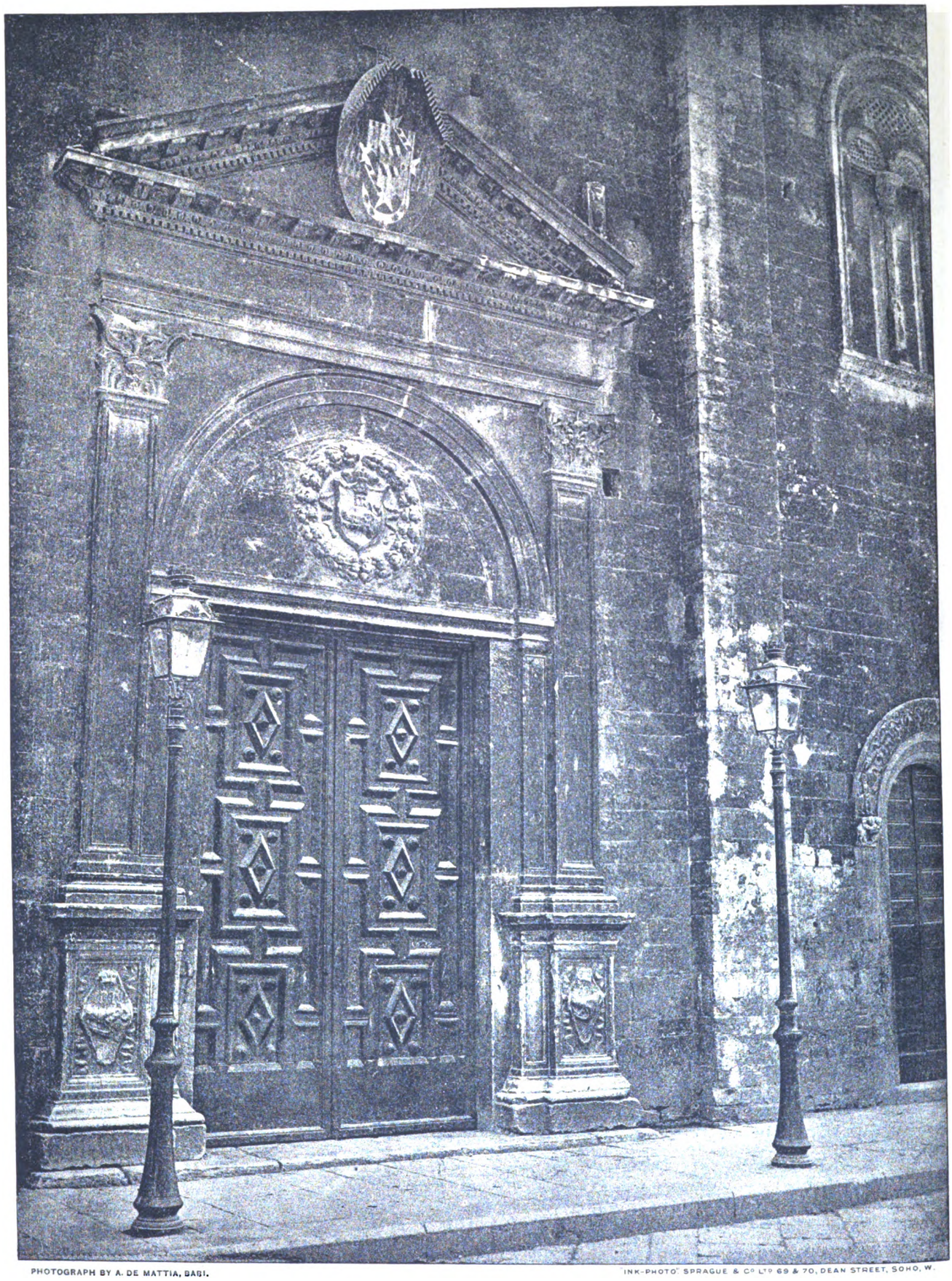
Hall in House at Winchester.
Henry S. Sideboltham. Archt. 1903.

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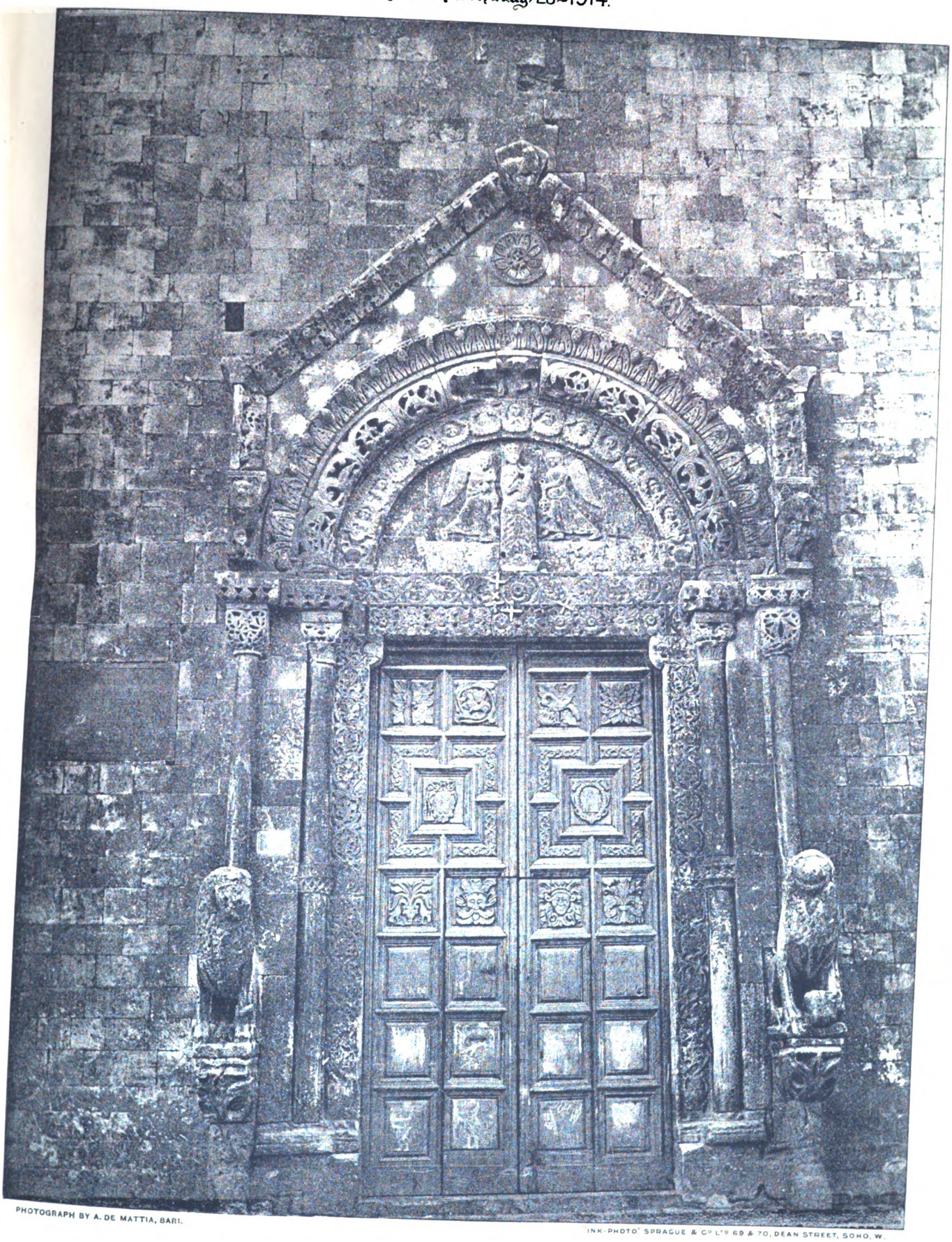


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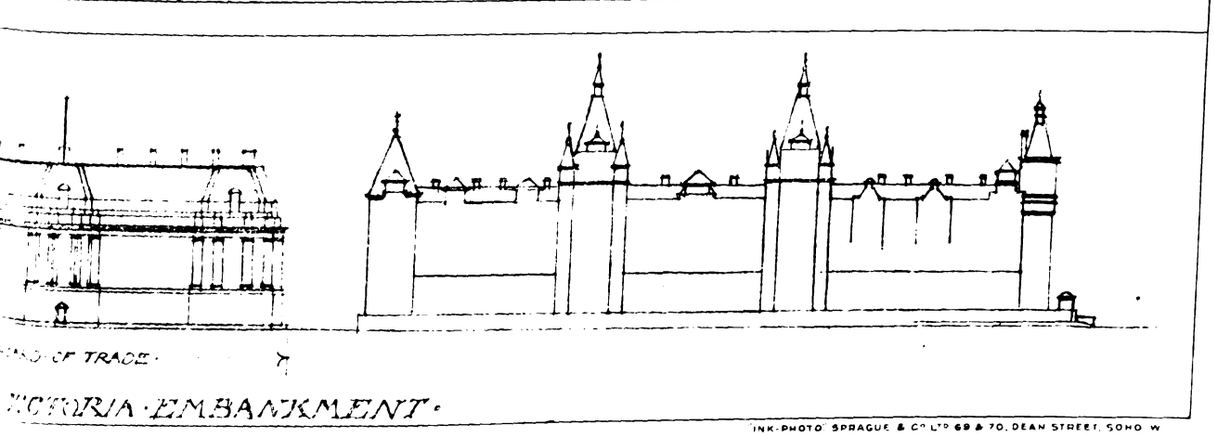


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MODERN EUROPEAN ARCHITECTURE.

SPAIN.



[From *Arquitectura y Construccion.*

INTERIOR, THE EAGLE HOUSE, BARCELONA.—Don Alejandro Soler y March, Architect.

Scotland—*continued.*

Musselburgh.—Elementary Board School, Campie House Estate, for 700 places.

Selkirk.—Savings Bank premises (£1,500). Messrs. A. & E. Grieve, architects.

IRELAND.

Arklow.—Technical School.

Borrisokane.—David Clarke Memorial Hall. Mr. T. J. Cullen, M.R.I.A.I., architect, 25 Suffolk Street, Dublin.

Cookstown (Co. Tyrone).—Technical schools. Messrs. Fennell (F.R.I.B.A.) & Clark, architects, 2 Wellington Place, Belfast.

Cork.—St. Mary's National Schools, Eason's Hill: additions and alterations. Mr. B. O'Flynn, B.E., architect.

Dublin.—Ten houses, Long Lane. Mr. H. J. Lundy, M.R.I.A.I., architect, 17 Suffolk Street. Messrs. Clarke, contractors, 13 Upper Clanbrassil Street.

Limerick.—District Asylum: additions. Mr. J. O'Malley, architect, 10 Glenworth Street.

Rathdown.—Labourers' cottages. Mr. Butler, architect.

Sligo.—Ursuline Convent National School: additions. Messrs. W. H. Byrne & Son, R.I.A.I., 20 Suffolk Street, Dublin.

Tralee.—Convent of Mercy, St. John's: National School. Mr. S. F. Hynes, F.R.I.B.A., architect, 5 South Mall, Cork.

PATENT SPECIFICATIONS PUBLISHED AUGUST 20, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 17,094. July 25, 1913.—Robert Harrison, 23 The Westlands, and G. F. M. Surtees, 18 Park Place East, Sunderland. Automatic disinfectors for use in flushing tanks for water closets and the like.

17,226. July 28, 1913.—William Hughes and P. C. Rielley, 1 Balfour Buildings, 18 Yuen Nung Yuen Road, Shanghai, China. Combined fire extinguishing and fumigating plant.

17,617. July 31, 1913.—L. A. Magnus, 22 Girdlers Road, West Kensington, W., and N. N. Currie, 62 Sydney Road, South Hackney, N.E. Acetylene gas generators.

18,761. August 18, 1913.—W. H. Tierney, 50 Rothesay Avenue, St. Kilda, Victoria, Australia. Construction of framing for shop fronts, show cases, and the like.

19,312. August 26, 1913.—Aric and Johannes Notenboom, 33 Scheepsmakerij, Delft, Netherlands. Apparatus for automatically regulating the temperature in hot-houses and other closed rooms.

20,081. September 5. 1913.— Thos. Danks & Co., 11 Thurland Street, Notts, and Robert Fraser, 140 Edward Road, West Bridgford, Notts. Water heating systems.

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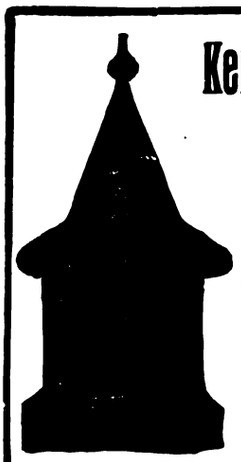
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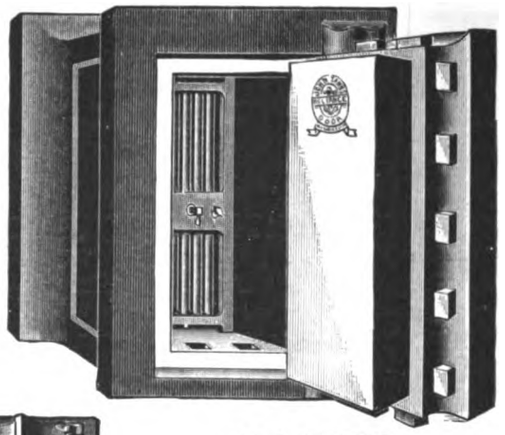
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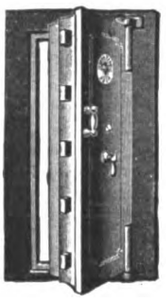
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19,666. August 30, 1913.—John & Harold Priddin, 25 Bonfield Road, Lewisham, S.E. Method of and means for joining and securing together the ends of metallic or other pipes, tubes, rods, bars, or the like.

21,193. September 19, 1913.—J. M. Doughty, 214-222 St. John Street, Clerkenwell, and G. H. Gyton, 17 Harewood Avenue, Marylebone, N.W. Counterweights for pendant electric light fittings.

23,452. October 16, 1913.—Benjamin Electric Manufacturing Co., 120 S. Sangamon Street, Chicago. Shade-supporting device.

23,563. October 17, 1913.—Arthur Bergtheil, Finsbury Court, Finsbury Pavement, E.C. Supports for fans.

23,987. October 23, 1913.—Sam Ginesi, 23 Wellington Crescent, Shipley, Yorks. Draught excluding device for doors and the like.

24,653. October 30, 1913. John Curley, 19 Swingate Lane, The Slade, Plumstead, Kent. Scaffolding and staging.

25,745. November 11, 1913. Hartley & Sugden, Ltd., and Samuel Fox, Atlas Works, Halifax. Fire-back range boilers.

25,895. November 12, 1913.—Frederick Thackeray, 3 Cambrian Terrace, Gwaelodygarth Road, Merthyr Tydfil, Glam., borough architect. Schools and the like buildings with curved walls.

74. January 1, 1914.—The Kinnear Manufacturing Co., Columbus, Ohio, U.S.A. Means for operating fire doors, shutters, and the like.

879. January 12, 1914.—Chas. Uy, 1 Gyori-ut, Budapest, architect. Frame supports for forming ferro-concrete floors and ceilings.

2,195. January 27, 1914.—Edward Richards, 7 Cart Lane, Victoria Street, Bristol. Hooks for pipes.

6,422. March 13, 1914.—J. I. Jensen and J. A. Clausen, Esbjerg, Jutland, Denmark. Sheet-metal roof.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

National Relief Fund.

Sir,—We regret to say that the Subscription Sub-Committee of the National Relief Fund has heard of a good many cases in which use has been made of its name, or of the names of those connected with it, with the object of securing support for appeals which are quite unauthorised.

We hope you will be so good as to permit the appearance of this letter, the object of which is to inform your readers that they may be assured that any extravagant or grotesque appeals emanate from persons who have neither the authorisation nor the support of this Committee.—Yours faithfully,

C. Arthur Pearson,
Hedley F. Le Bas,
Frederick Ponsonby,
Joint Secretaries, Subscription Sub-Committee, National Relief Fund.

York House, St. James's Palace, S.W.:
August 24, 1914.

Belgian Relief Fund.

Sir,—I have undertaken to help the Belgian Minister in his efforts to raise a fund in this country for the relief of the families of Belgian soldiers. I am induced to do this on account of the many friends I made in Belgium when I acted as Chairman of the British Royal Commission for the Brussels Exhibition in 1910, and also because I feel that support for this fund is one of the most urgent needs of the moment.

It is difficult for us in this country to realise the full horror of war. In Belgium there is hardly a family which has not already had to face the grim reality. Their country is invaded, their homes are destroyed or threatened, thousands are already mourning for soldiers who have fallen, their crops are trampled down, their industries ruined, and their whole land devastated. They have borne the brunt of the first onslaught of the war, and it is impossible to exaggerate the service which they have already rendered to the allied armies by their splendid resistance to the German troops.

Appeals at this moment are numerous, and our first duty is of course to our own people, but out of our great resources something surely can be spared for those who have given their all and who are not so fortunate as we are in being able to make preparations to relieve their sufferings before they arise. I think you may be interested in this appeal as one of the exhibitors at Ghent, and if you can send me a contribution to the address below, where at Comte de Lalaing's request I have opened a temporary office, I shall be most deeply grateful. Cheques should be made payable to me and crossed "Belgian Relief Fund."—I am, yours truly,

Lytton.

Belgian Relief Fund, Room 47/48 (Sixth Floor),
28 Broadway, Westminster, S.W.:
August 20, 1914.

A Warning to Manufacturers and Merchants.

Sir,—As day by day goes by, and the country becomes more resigned to our changed life, we find the industrial world awakening to the fact that they can do their duty equally with the soldier, on the land, or the sailor, on the sea, and the way to serve our country's interest is to steadily pursue our regular employment, promptly meet our liabilities, not to reduce our expenditure more than is absolutely necessary, to most strongly set our faces against taking undue advantage of the moratorium, and, as members of the architectural profession, to use our best endeavours to obtain the sanction of our clients to proceed wherever practicable or possible with building operations. I have been reading the letters which have appeared in your Journal and particularly the one by "A London Contractor." I am most cordially in agreement with him, and I would like to suggest that we, both Architect and Contractor, might bear in mind in future the many building firms who have continued their trading, attempting to take no unfair advantage, and most emphatically turn our faces from those who have been guilty of such mean and despicable practices. I should like, however, to appeal for generous treatment for quite a number of firms, who, owing to the impossibility of obtaining their raw materials from Germany are severely suffering financially at the terrible disorganisation of their businesses. Finally, I notice advertisements missing in yours and other building papers and trade journals of some manufacturers who, when I have challenged them that their goods were of foreign make, have replied "Oh dear, no, our goods are absolutely British made, and made at our works at ——." Where are they now? Apologising for my somewhat overlengthy letter, I am, yours faithfully,

F.R.I.B.A.

August 24, 1914.

The War on German Trade.

Sir,—Considered by our country as too old to engage in military operations, we should yet like to do our part in the war upon German trade. We suggest that it would be facilitated if manufacturers were able to obtain first-hand information with regard to German goods sold in this country and were placed in touch with those who have hitherto handled them.

There must be many hundreds of agents and travellers hitherto dealing with German imports, but now out of employment, who are eager to get to work again and make commercial use of their knowledge and experience if they knew how to do so. It seems essential for success that co-operation between the agent and the manufacturer should be obtained.

We shall be pleased to act as a channel of communication. If agents and travellers formerly handling German goods care to write to us, stating as clearly and as briefly as possible the goods they handled, we shall be glad to hear from them. Particulars should state if samples can be furnished for the inspection of manufacturers, the probable quantity which could be handled, and district covered.

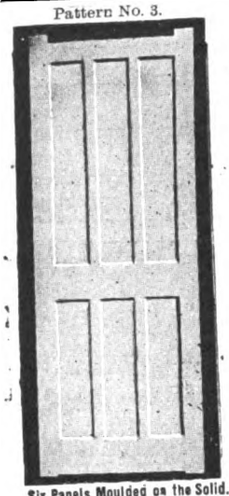
We will then put them into communication with British manufacturers who are prepared to supply the goods needed, thus giving both and many others the employment now lacking.

We have no connection with trade, direct or indirect, our object being to furnish a means by which manufacturers and agents can be placed in communication with each other without delay.—Yours faithfully,

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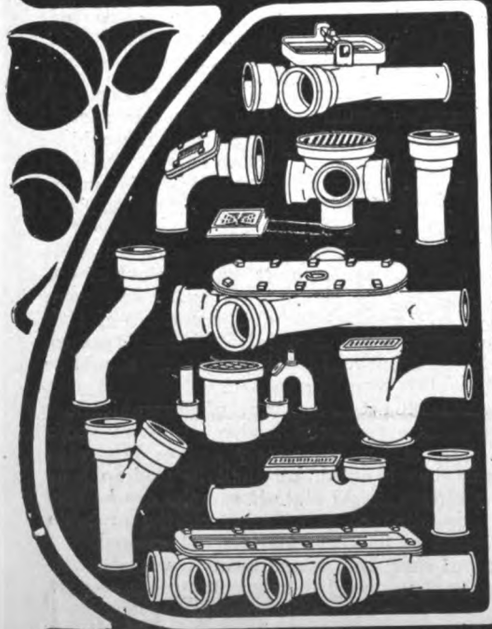
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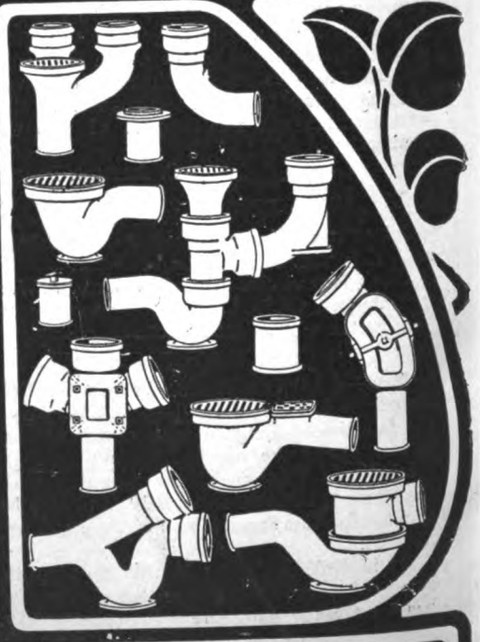
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THE ARCHITECT

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MORE BRITISH STANDARD SPECIFICATIONS.

AMONGST the recently issued British Standard Specifications drawn up by the Engineering Standards Committee that for "Salt-Glazed Ware Pipes" is of particular importance to architects, municipal engineers, and all connected with building. The importance of this * specification lies in the probability that it will result in the abandonment of the use of certain classes of pipe that have been used for drains and sewers. The Committee state that at an early stage of the work of preparing the present standard specification it was found desirable to discard the use of the term "stoneware" as being difficult of definition, and to adopt the term "salt-glazed ware," which was sufficiently descriptive of the pipes. They thus at a stroke abolish the—possibly somewhat nebulous—distinction that has up to now been more or less recognised between "stoneware" pipes and those of a more porous character—in the body, as distinct from the glaze—usually supposed to be made of fireclay. In truth the clays from which drain pipes are made have been generally of a mixed character, varying from almost complete absence, when burnt, of porosity to the quality of field or land drains. The Committee are therefore right in prescribing as a qualification for standard the possession of certain qualities rather than of a certain composition. It does not matter two straws to us, as architects and builders, of what clay a manufacturer makes his pipes as long as it possesses the capability of turning out a sound and strong drain-pipe. If he can make a satisfactory article without recourse to plastic clays of the lias formation we do not mind whether he uses fireclay or brick-earth, or any combination he pleases.

The Committee have therefore, quite rightly, pinned their faith to the safeguard of quality provided by the imposition of an absorption test. The standard specification recognises two grades of salt-glazed pipes—namely, "British Standard Pipes" and "British Standard Tested Pipes." The former are to be made with the intention of complying with the specification as regards thickness, standard diameter, straightness, form of socket; but only a percentage are required to be submitted to the hydraulic test for impermeability; whilst the latter grade is restricted to those pipes of which each has been individually subjected to the hydraulic test laid down in the specification. The practical result of this arrangement will no doubt be that all our drain-pipes will be of high quality as regards impermeability, for manufacturers could not afford to take risks in the general quality of pipes of which some selected haphazard from bulk will be subject to test. The real difference between the two grades will therefore be that all "British Standard Pipes" will be made with an intention of their being able to stand the hydraulic test; whilst "British Standard Tested Pipes" will be those in which the intention has been proved to have been realised by test. Thus for all ordinary work the presumably lower-grade pipes will be amply and sufficiently reliable.

As regards the form of sockets, the Committee have given considerable attention to the question of putting forward a standard form which would produce in unskilled hands better alignment than the form in most general use; but in view of the importance to the industry of not materially increasing the cost of salt-glazed ware pipes, they have not found it practicable to proceed with the matter, and therefore as regards the sockets only the minimum mean thickness and minimum internal depth and a minimum jointing space have been specified.

The inception of a standard specification for salt-glazed drain-pipes appears to have been due to the action of the Institution of Municipal and County Engineers, which body appointed a committee for the purpose of obtaining information from their members with regard to their requirements for a standard specification. The data thus collected was then summarised by that Institution in the form of a draft specification and placed at the disposal of the Engineering Standards Committee. This primal moving force might be supposed to tend to a high ideal of impracticable attainment; but such tendency we may regard as modified by the appointment of the Sectional Committee who drew up the present standard specification, inasmuch as it contained representatives of users and manufacturers, as well as of Government officials. The result is that whilst we have in a British standard pipe an article of high quality, it is not of such ideal perfection as to be practically unattainable. Amongst the good points of the specification is the stipulation that all British standard pipes, whether "tested" or not, shall bear a distinctive mark, with the name or trade-mark of the manufacturer. The specification should be part of the office equipment of every architect and sanitary engineer.

Of less general importance to architects than the standard specification for salt-glazed pipes is the British Standard Specification* for copper-alloy three-piece unions for low and medium pressure British Standard screwed copper tubes, which has its value to the general public in its provision for efficiency and for the interchangeability of parts in renewal—which is, from the users' point of view, one of the principal advantages of standardisation.

A third standard specification† which we may notice is that for two- or three-plate ceiling roses, which are readily breakable electrical fittings or "accessories," and hence a fitting subject for standardisation so as to promote convenience and safety in the ability to easily replace a damaged fitting in its cover without making any alteration to the connecting wires or to

* *British Standard Specification for Salt-Glazed Ware Pipes.* Issued by The Engineering Standards Committee. (London: Crosby Lockwood & Son. 5*s.* net.)

* *British Standard Specification for Copper-alloy Three-piece Unions for Low and Medium-pressure British Standard Screwed Copper Tubes (Primarily for Domestic and Similar Work).* Issued by The Engineering Standards Committee. (London: Crosby Lockwood & Son. 5*s.* net.)

† *British Standard Specification for Two and Three-plate Ceiling Roses.* Issued by The Engineering Standards Committee. (London: Crosby Lockwood & Son. 5*s.* net.)

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the backward or other support for the fitting. The Sub-Committee on Electrical Plant Accessories are now actively engaged on the standardisation of many other similar fittings (among them two- and three-pin plugs), and it is hoped that most of the fittings in general use in electrical installations will be standardised at any early date.

NOTES AND COMMENTS.

THE destruction of Louvain and the serious injury to Malines are acts of wanton mischief for which no lover of art can ever forgive the German nation.

We cannot agree with the reply of Mr. Runciman in answer to Mr. Tyson's question in the House of Commons, when he said that owing to interruption of trade with the Baltic it was not possible to avoid an increase in the prices of most descriptions of timber. Any abnormal increase of price must be fictitious and due to the operation of stockholders in this country who want to take advantage of the crisis to inflate profits. Such prices can be only temporary, because, as we have before pointed out, we do not and have not for some years obtained timber of any decent size from the Baltic.

The extension of the moratorium may be necessary in the interests of the financial world, but it does not tend to rapid recovery of activity in the building trade unless steps are taken by the Government to induce the banks to finance builders, both large and small and especially small, by advancing to them on easy terms the necessary cash to pay wages. We quite agree with the terms of the following circular issued by the Yorkshire Federation of Building Trade Employers:—"The national crisis, and the moratorium proclamation postponing payment of money due and restricting banking facilities, are calculated to cause serious inconvenience to building trade employers. Many building owners who could reasonably be expected to pay are taking advantage of the moratorium, and withholding payment. Architects have been requested by some clients to withhold the issue of further certificates, or defer measuring up completed works. To keep the building trade going and to ensure the continuance of work for the benefit of the community will require the co-operation of building owners (both public and private), architects, and surveyors, and workmen. The moratorium . . . does not relieve a contractor from payment of his workmen's wages, nor does it assist him to get material on credit, thereby enabling him to complete his contract work. A strong appeal is, therefore, made to building owners, and their architects and surveyors, to facilitate the measuring and certifying of works completed and the payment of moneys due as promptly as possible. . . . Suspension of payment may lead to suspension of work, and cause acute distress to fall on workmen."

Although we personally have not found it necessary for years past to use German or Austrian lead pencils, we are glad to know that we need not fear for our pencil supply from the assurances of Mr. George Rowney, who, in an interview with a representative of the *Morning Post*, has cleared up a number of misunderstandings on the subject of our ability to produce pencils not only for ourselves, but for neutral markets. The Germans, apparently, have sedulously cultivated the idea that they employ secrets in the making of lead pencils, but more particularly in the manufacture of blue and other coloured pencils, which we do not possess. Mr. Rowney said: "The Germans possess no secrets whatever in this trade. We have been making blue pencils such as are used in newspaper offices and in the City for many years, and we can produce as many as our customers demand. There need be no scarcity of any description of pencils except one, and in that case it will be worth the while of some firm to take up the production of mauve aniline dyes. The Germans had a monopoly in the dye used for indelible pencils, and these cannot be made unless some chemist supplies the raw material for colouring as I have indicated.

"Prices," said Mr. Rowney, replying to a question, "of British-made pencils have been practically the same as those of the German-made article. I may tell you that they were such as to give the stationers a profit of 100 per cent., but they were not content with that, and took up the German goods because the Germans, to cut British firms out, were prepared to accept a price that would enable the stationers to make from 110 per cent. to 115 per cent. The public need not pay any more than they have been doing if the stationers will only take the step of placing the necessary contracts. We, for instance, will have to extend our factory, and in fact are doing so. Time will be required to get the cedar wood, which we use, from South America and other places. People will have to reckon with the fact that it will be impossible to get pencils from anyone else than the home manufacturers.

"I had a letter from a firm this week asking me to quote terms for a supply of our products. The firm very kindly added that if I quoted them favourable terms they would make a point of dealing with us instead of with Germany and Austria after the war was over. I wrote back advising them to place their order with the same people from whom they had hitherto obtained their pencils. In our trade we have suffered a great deal from this German competition, and without reason. It was simply due to a stupid idea on the part of thousands of people that, because they were getting a foreign article, therefore it was better than anything that could be made at home. The truth of the matter is that the Germans had no advantage over us, except that in certain localities they had specialised in this work just as we specialise in cotton in Lancashire and wool in Yorkshire. Much was done outside of factories by women and children, but they had nothing either in raw material or in labour which entitled them to be regarded as so much ahead of us as they have been.

"I am glad to say," added Mr. Rowney, "that most of our public departments have shown an intelligent comprehension of the situation. The War Office has placed large contracts for pencils with English firms. The railway companies have done the same, and others are following their example, and you make take it as certain that if the ordinary stationer is trusting for his supplies to the existing German stocks in this country, he is going to find himself in a difficulty."

Mr. William J. Locke, who is known to many of our readers as the former secretary of the R.I.B.A., as well as in his later *rôle* of a distinguished and successful novelist, has, in a stirring letter to *Lloyd's News*, said truly: "The upper and middle classes have given their time, their brain, their substance, their flesh, and their blood—everything a proud and outraged people has to give—from the Queen, who is working night and day, and has sent her son to the forefront of the North Sea battles, to the shop assistant who is ingloriously driving an ammunition waggon along our dusty roads.

"What is our Army of Labour doing? As far as one can see, they are looking on at this world struggle as they look on at a football match. If they are doing more, why have we not the million men?"

WAR ITEMS.

IN connection with the campaign undertaken by the Board of Trade on the advice of their Advisory Committee on Commercial Intelligence to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of inquiries for names of sellers or buyers of articles of which sources of supply or markets have been interfered with by the war.

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Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the inquiries, and lists are being prepared and circulated of articles which inquirers desire (*a*) to purchase, and (*b*) to sell. The first lists are now ready and may be obtained on application to the branch. Firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director. An enlarged sample-room will also be established very shortly for the purpose of exhibiting samples of German and Austrian or Hungarian goods or materials which have competed with British products at home or abroad, especially those which are necessary for the continuance of British manufacture, but which it is now impossible for them to obtain from their previous sources.

Firms who may wish to exhibit goods are invited to make application to the Commercial Intelligence Branch. It should be expressly understood, however, that the exhibition is intended exclusively for samples of goods which have formerly been obtained in Germany and Austria-Hungary alone, and which firms may now desire to purchase in the United Kingdom. Notice will be given of the opening of the exhibition.

A catalogue library will also be opened, and firms who may not desire to exhibit samples are invited to furnish catalogues of goods formerly received by them from Germany and Austria-Hungary; these catalogues to be classified by trades in order to be readily accessible to inquirers.

The address of the Commercial Intelligence Branch is 73 Basinghall Street, London, E.C.

Included in the list of articles which inquirers desire to purchase, and also of those which they desire to sell are "Building Materials." There are many other articles in which our advertisers are interested, and we should advise them all to obtain copies of the lists which can be had free for the asking.

We take the following extract from the pamphlet on "Brass and Brass Wares, &c.," issued by the Commercial Intelligence Branch of the Board of Trade, which conveys a hint that all British exporters should bear in mind:—

The following extracts from the Report of the Special Commissioner sent to South Africa in 1903 by the Board of Trade may still be of interest:—

"*Fire Grates, Fenders, &c.*—So far this trade is almost entirely British, and there is no reason why it should not remain so, if manufacturers will take the trouble to pack their goods with greater care. The very worst packing I saw in South Africa was in the hardware trade. In a single case of fenders, for instance, eight arrived at their destination broken, because they had been packed in so large a case that there was six inches clear space left at one end between the fenders and the case. On account of similar careless packing, out of a single consignment of seventy-two fire-grates, seventy-one arrived more or less damaged. At every hardware establishment I visited complaints were made of British packing. Apart from the question of packing, this branch of trade is well catered for by British manufacturers, and remains almost exclusively in their hands."

His Majesty's Trade Commissioner in Australia, under instructions from the Board of Trade, has recently collected certain samples of foreign hardware, hollow-ware, and tools which compete with similar goods of British origin in the Australian market. These samples, which include a large number of German goods, have just been received from Australia, and, in connection with the campaign which the Board of Trade has recently started with a view to assisting British firms to secure trade formerly in German and Austro-Hungarian hands, arrangements have been made for their immediate exhibition in this country. The samples, whose total number is about 430, divide themselves into the following main headings:—Aluminium ware, enamelled ware, general hardware (bolts, staples, hinges, butts, bells, choppers, hooks, padlocks, stoves, lamps, spoons, &c.), and tools. The aluminium ware, enamelled ware, and general hardware have been dispatched to Birmingham for exhibition at the offices of the Birmingham Chamber of Commerce, and the tools to Sheffield, for exhibition at the offices of the Sheffield Chamber of Commerce. All the samples will then be exhibited in London and in any other industrial centres where it may seem desirable to send them. A report relating to these samples, giving full information as to country of origin, prices, &c., is being circulated to firms in the country who may be interested, and copies may also be obtained on application at the offices of the Commercial Intelligence Branch, 73 Basinghall Street, London, E.C.

The Tariff Commission has issued a pamphlet on "Trade Aspects of the War with Germany," and includes in the list of German goods competing with British products in the markets of the world the following items relating to the building trades:—Building materials of all kinds, cement, chilled iron sand, diamond grit, lime, marble chimneypieces, Parian cement, paving sets, plaster of Paris, road metal, roofing slates, and slag wool.

The following resolution has been passed by the Chadwick Trustees: "That in view of the immense importance of encouraging in every way the promotion of careful sanitary organisation in the Naval and Military Services during the present campaign, the Chadwick Trustees have resolved under the powers conferred upon them under the scheme they administer, to announce their intention to award at the close of this year the Chadwick Gold Medal and £50 each to the Naval and Military Medical Officer respectively in the British Service who shall have distinguished himself most in promoting the health of the men in the Navy and the Army. The nomination for such presentations to be, as provided by the terms of the Trust, by the Directors-General of the Naval and Military Medical Services respectively."

The Chadwick Trustees are also making arrangements for providing or assisting in the provision of lectures and demonstrations on Naval, Military, and Hospital Hygiene. Particulars of these lectures will shortly be announced.

Representations have been made to the Government Committee on the Prevention and Relief of Distress, that business would be facilitated during the present financial emergency if payments in respect of works under contract could be expedited and made at shorter intervals than has been customary. The Committee have been in communication with the principal spending Departments, and with their concurrence desire to give publicity to the following arrangements which have been made.

As regards interim payments, made before the completion of contracts, the War Office are willing, where the contractor so desires, to make these payments at fortnightly instead of monthly intervals; the Admiralty have arranged for weekly payments on their Overseas' certificates, and the Office of Works for fortnightly or weekly payments when desired. The War Office have decided to make interim payments on building contracts on a higher scale than heretofore.

The Office of Works are prepared to reduce the value of work to be done before advances on account are made, if contractors desire it.

The General Post Office and the Office of Works have decided to expedite the payment of all accounts received, and particularly, in cases where the payment of an account might ordinarily have been delayed on account

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NOS. 52 AND 53 MARGARET STREET, LONDON, W.—Mr. F. M. ELGOOD, F.R.I.B.A., Architect.

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of a dispute as to one or more items, to settle at once so much of the account as is not the subject of dispute.

It is hoped that Local Authorities and other public bodies will be able to make similar arrangements in order to assist contractors in carrying on their business.

Mr. Maurice E. Webb, President of the Architectural Association, has enlisted as a private in the Royal Engineers.

We offer our respectful sympathy to Mr. Bligh Bond, the name of whose brother, Colonel R. C. Bond, of the King's Own Yorkshire Light Infantry, appears in the first list of officers killed.

ILLUSTRATIONS.

HOUSE AT NORTHWOOD.

THE utmost simplicity has been aimed at not only in regard to the elevations, but in the planning so as to provide straightforward square rooms without ingles or bays and to secure that all the sitting rooms and bedrooms obtain the maximum amount of sun during the winter months. The exterior is of red brick with moulded bricks sparingly used for the heads of the lower windows which have generally solid wood frames and iron casements. Internally oak has been used largely for floors and joinery, the latter having been all made in his own workshops by the local builder, Mr. Joseph Green, who carried out the entire work very faithfully under the supervision of the architect, Mr. F. M. Elgood, F.R.I.B.A.

POST OFFICE, NORTHWOOD.

THIS building, planned according to the requirements of H.M. Post Office, was built by Mr. Harry Neal from the designs of Mr. F. M. Elgood, F.R.I.B.A. Red and grey bricks are used for the elevations and stone is sparingly employed for the dressings.

EMMANUEL CHURCH, NORTHWOOD.

THIS is a large red brick church having seating accommodation for about 850 persons. It was built in two portions, the eastern end having been recently completed. The interior is founded on the brick churches of North Germany, the moulded brick arches and method of setting the piers diagonally to receive them being one of the chief characteristics. All the bricks, including the moulded bricks, were made locally. The piers are of Darley Dale stone and the other stone dressings of Monk's Park. There is no chancel arch proper, but the end bays next to the sanctuary are slightly canted inwards. Messrs. T. H. Kingerlee & Sons, of Oxford, were the builders and the architect is Mr. F. M. Elgood, F.R.I.B.A.

MORTUARY CHAPEL OF THE MERLI-MAGGI FAMILY, MILAN.

THE view of this chapel which has been erected in the monumental cemetery at Milan will be of interest to our readers as being the design of Signor Alfredo Melani, who is not only a learned writer and professor, but an architect of ability as this work shows.

OLDACRES MEMORIAL CROSS.

THIS is a memorial cross in grey granite erected at the cost of his parishioners over the grave of the late Rector of Illingworth, Yorkshire. The work was done by Messrs. Wright, of Bradford, from the design of Mr. E. Swinfen Harris, F.R.I.B.A. A memorial brass has been fixed in the parish church there (the offering of the family), designed by the same architect and wrought by Messrs. Gawthorp, of Long Acre.

NOS. 52 AND 53 MARGARET STREET, LONDON, W.

THESE are planned as business premises and are arranged internally as simply and with as much light as possible. The columns and pilasters are of grey Aberdeen polished granite carrying the rusticated arch of Portland stone. Above this the front is built of Lawrence's rubbers with Portland stone dressings. The greater part of the joinery is of teak French polished. The builders are Messrs. J. W. Falkner & Sons, and the architect Mr. F. M. Elgood, F.R.I.B.A.

UP AND DOWN THE MEUSE.

By A SKETCHER.

THERE is nothing new under the sun. To spend one's summer holiday on the banks of the Meuse is probably as worn-out an idea as to pass a winter in Rome, or to flit with the swallows to Egypt when the days shorten. Yet Rome is always fresh to the latest comer, and the Nile has charms beyond the luxuries of its boats and the first sight of a pyramid. And the homely Meuse, within reach of Cook's tourists, and flowing as it were at our doors, is nevertheless not a written-out, travelled-out, chattered-out, and altogether exhausted water highway. The average tourist takes the river just where it happens to cross his proposed journey—say at Rotterdam, where it flows into the sea; or at Liège, where it spreads its widest for commerce; or mayhap on the French line, *en route* for Metz, at Verdun, or at Sedan, since Sedan became famous for national catastrophe. But not many care to trace the bounteous river throughout its course, or to prove its resources of beauty and interest. This is the pleasant holiday task we have set ourselves; and if the reader will join company, why he might go farther and fare worse.

We strike the Meuse at Namur, where the Sambre comes down from France to swell its waters, and the two together flow with a wide sweep and a swift current towards Liège. In the winter time, when the ice breaks up, the strong river, swelled by melting snows, overleaps its bounds and comes tearing down, piling the ice pack upon pack, and driving it against the banks, as, indeed, an avenue of trees on the way to Marche les Dames testifies by a regular scar at a certain level on the hither side of every trunk. It is curious how precisely the drive of the ice blocks has taken each tree at a given height, and peeled off the bark in almost identical shape. There is luckily great vitality in the trees. Their wounds have been dressed and plastered with pitch, and they are as full of foliage as if winter storms had never touched them. Namur is well placed; it fills a sloping valley between the Sambre and the hills, clusters round the fortress-crowned promontory between Sambre and Meuse, runs an arm beyond the meeting of the waters, and scatters a sprinkling of country houses for a mile or so above the township. The beauty of the town lies in its situation, and in the imposing aspect of the citadel, the skyline of which has the grandeur which always belongs to masses of solid masonry well squared and firmly based on a visible foundation of rock at a considerable height. This stronghold has played an important part in many a war since it was the feudal castle of the counts of Namur, while before the middle of the fourteenth century it had already suffered eight attacks. The remains of three round towers and a piece of wall are all that is left of feudal times. In those days the enclosure contained not only the donjon and dwellings, but a collegiate church, depository of a sacred relic, the cap of St. Peter, and served by thirteen canons. St. Peter would probably have disowned his cap, which was red velvet, covered with gold and embroidery; and it must be mentioned that the learned Jesuit writer, Father Papebroch, without giving the relic a precise date, designates it as only an episcopal mitre of great age. The cap is now deposited in the treasury of St. Aubain, where the faithful may view it for a consideration. The tower of St. Peter's church served in the fourteenth century for the belfry of the commune, but belfry and church were all burnt in the siege of 1746. Less than a century before that date Louis XIV. had sat down with his army before the citadel, which was held to be almost impregnable, and, thanks to the genius of Vauban, took it in six days and the outlying works in twenty-four. The stronghold was then made more strong under Vauban's direction. Nevertheless, the great military engineer's rival, Coehorn, the Dutchman, organised for the allied armies under William of Orange a siege that subdued the place in a month, with great loss to the French. Coehorn repaired and greatly extended the fortifications. Then came the Wars of Succession. The citadel was taken and re-taken. In 1746, as we have seen, the French under Maréchal Saxe turned out the Dutch and fired the buildings. So the story goes on. One of the last periods of reparation was aided by English gold during the campaign against Buonaparte; but in 1858 the forts were again demolished, and later this famous fortress was remodelled by Brialmont for its duty in the present war. Needless to say in the latest conflict between French and Germans the

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citadel of Namur has proved itself a most important point in the line of French operations along the Meuse Valley.

The view from the citadel, though not very extended, is sufficiently beautiful to repay the ascent. Namur shows itself from this vantage ground precisely what it is, a cheerful, irregularly built town, having no pretensions to the picturesqueness of ancient monuments, but yet by no means commonplace or ugly, and placed in an irregularly beautiful situation. Out of the sea of lilac and pinkish-brown roofs, and the bright green heads of the acacia trees, rise a few old towers. First the *Beffroi* of St. Jacques, which dates from 1388, but was altered in 1533 to receive the call-bell of the commune, called the *cloche d'heure* or *cloche porte*, which summoned the citizens, rang for the closing of the gates at evening, and so on. The tower has of late been given a new roof with wooden mansards, pretty enough, but out of keeping with the solid round courses of masonry. Then there is the tower of St. Jean Baptiste, beneath whose shadow the fruit market is held; a very respectable old square tower, surmounted by a bell-shaped roof or cap, dating, it is true, only from 1616, but in a picturesque state of arrested decay, which makes it look more venerable than it is. There is no prettier corner in Namur for an artist's brush than the little *marché* here on a fine summer's day, when the market women in their white caps and blue gowns sit round the place, presiding over their vegetables and fruit, and the bright-coloured groups and the round heads of the brilliant green acacia trees show up in the sunlight against the shadowed side of the tower, where it has been banked up with earth, while the swifts fly in and out of the arcaded upper storey. It is a picture such as old Prout would have loved to paint.

Conspicuous objects in our bird's-eye view are the great dome and the square grey campanile of St. Aubain, the latter similar in style to St. Jacques, and quite incongruous with the sumptuous Renaissance forms and enrichment of the red-brick church itself. Outside and in, the cathedral of St. Aubain is really grandiose in proportions. Close by is St. Loup, nothing to look at as to exterior, but within showing a peculiar chord of colour not unpleasing to a painter's eye. The ceiling, carved richly in sandstone, is not only a curiosity, but has a soft mellow tone and rich fretted look which harmonises with the black marble of the immense altar back, the yellowish-brown of the twelve round unpolished marble pillars of the nave, and the warm dark tone of the carved confessionals and panelling that line the aisles. The church is disfigured by tawdry ornaments and tasteless pictures—of course, all churches in ultra-Catholic Belgium are—but, considering that St. Loup belongs to the Jesuits, it is wonderfully quiet and in good taste. Louis Haghe would have known how to make a capital study out of its inky purples and soft browns.

A thriving, pleasant town is Namur, girdled round by its wooded hills, with the Meuse sweeping in full curves at its feet. Its chief source of wealth is the manufacture of cutlery, which has given it the nickname of the Belgian Sheffield; but it must do a good trade in exporting building material, to judge by the many quarries in the hills of stone and marble. The character of the lovely scenery which lies in the immediate neighbourhood may be fairly taken from the drive along the riverside to Marche les Dames, where the German prince D'Aremberg had a charming country house and demesne, and thence into the hills westward. The road, after passing the line of romantic cliffs on the left bank, turns by the Château d'Aremberg into a narrow valley, full of shadow and stillness in the evening time. The hills stretch up in masses of fir of many kinds, small beech, and birch wood. The meadow grass is lush with heavy dew, and the mists rise early. Not far from the entrance of the valley one comes upon the old conventual building which gives to the place its name of Marche les Dames, for here in the twelfth century certain noble ladies, whose knights had gone to the Holy War, retired to give themselves to patience and prayer and good works. When the Crusaders returned, the ladies made widows by the sword of the Saracen resolved to abide still together at Marche. In course of time, towards the middle of the fifteenth century, a body of Cistercian nuns was installed here, and sixteen abbesses lie buried in the little cemetery. The convent is now the refuge of Ursuline sisters from Cologne, who manage a seminary of young girls. The cluster of buildings, with its plain walls, its towers and high roofs, set low in the green valley beneath the shadowy woods, looks in the falling light of a summer evening singularly impressive and mournful. Farther on Count D'Aremberg had nurseries of young trees, pines, firs, &c., in every stage of growth from seedlings upwards, covering considerable tracts of land. The road winds sometimes in the open, sometimes beneath the trees through this solemn valley, which would serve well for the background to scenes from Spenser's "Faery Queen," and finally emerges at the ragged edge of a little village, the larger portion of which hides between the farther hills. The way back to Namur then lies over uplands golden and green with corn and oats, past a straggling hamlet or two, through avenues of trees, past open rock and quarries, and then steep down, with views of hill and river, into the town again.

The river scenery immediately below Namur is similar to that which one finds higher up—cliffs of limestone and transitionary rock worn into fantastic caverns, wall, peaks, and buttresses, everywhere garlanded and muffled with trees and creepers, alternate with or rise opposite to soft sweeps of woodland, levels of *prairie*, as they here call the meadows, and reaches of corn land. Fishing hamlets sheltered by trees of larger growth, groups of alder, where the boats lie moored, a château among the woods, a church with its village at its feet, a ruined castle frowning over a precipice, and always the shining river, brimming and smooth and full of reflections—this is the material for the sketcher between Namur and Dinant. People the scene with a ruddy, dark-eyed peasantry, stout made and strong, given to the wearing of bright blue linen and woollen garments, big straw hats and bonny white caps; given to much motionless angling in the stream, to carrying of burdens, to much field work, of women as well as men, tossing and reaping and gathering into sheaves; to keeping of cattle at pasture by a cord tethering the leader to a cowherd, boy, or little maiden as the case may be. Vary the scene with golden lights and floating shadows, calm afterglow, or clear diamond rays of early morning; bring the brooding thunder clouds over the dark woods in lurid masses, or drop the rugged rim of melting grey above the last curves of the white river; and here you have enough to keep your brush busy for the week and month together.

The guide-books which describe the steamboats up the river from Namur as "dirty and uncomfortable" malign the tidy little boats which were worked by M. Piérard. The navigation up is, of course, a little slow; the levels of the river are managed by a system of locks, and the *trajet* altogether takes on an average three and a half to four hours, according to the weather. The railway follows the curves of the Meuse, and makes a charming run; still, the water way is much to be preferred for a full view of the scenery. The prettiest points are perhaps between Profondeville and Yooir, where long narrow islets divide the stream, and the woods roll in green waves backward over the hills. But decidedly the finest piece of rock scenery is about a mile up from Yooir, where the ruins of the castle of Poilvache show a long jagged line of wall hardly distinguishable from the cliff on the edge of which they stand. The rock is here larger in form, and, instead of projecting in odd wedge-like buttresses or fantastic spires among the greenery, is broken in solid curved or angular masses of bare crag, bold perpendicular cliffs or slant flanks, and the colour is a fine warm grey that assumes amethyst hues and coloured shadow. The castle is a mere remnant of outer wall, and only by the extent of ground it encircles testifies to its importance in bygone days. It was a stronghold for centuries and suffered many a siege, but as long ago as 1554 was finally demolished when the army of Henri Deux overran the district. Below Poilvache, higher up the river, is the castle of Blocmont, also a ruin, making above the rough hillside, with the little hamlet of Houx at its feet, the wooded valley beyond, and some groups of sentinel poplar trees against the sky, another subject for a sketcher. One of the best points for taking Poilvache is close on to the abominable iron railway bridge, which does its best to spoil the chance of combining well the castle and noble crag on which it stands, with the sweeping river below. The country is open on the left side, and a broad band of flower-bestarred turf lies between the cornfields and the edge of the bank some ten feet above the river. Here we sat sketching at the calm close of a golden August day. The cliff of Poilvache began to show delicate hues of lilac and blue above the smooth water, the woods grew purple in shadow, great lustrous thunder-clouds rolled slowly over the hills, and a warm glow lay over all. A group of work-girls on the river-bank at Houx sang together some sweet monotonous ditty, and slowly sauntering towards us, casting long

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shadows on the turf, came a little girl holding her goat by a cord, and a company of roguish boys in blue blouses, curly-pated or wearing enormous straw hats like inverted porringers, guarding a couple of cows that grazed the flowery grass as they went. It was a sweet pastoral picture, that left itself softly imaged in the memory.

Beyond the village of Anhée the hills on the left bank of the river rise again, and out of the woods rise the remains of the castle of Bouvigne, all that is left of two strong towers built in the fourteenth century, when the land was full of tumult. The other tower, called of Crèvecœur, was raised by the folk of Bouvigne as a defiance to their neighbours of Dinant, with whom they were always at feud on account of a certain rivalry in the manufacture of copper vessels—copper kettles, it is said. The Dinantais retorted by the erection of an enormous tower on their side of the Meuse, which went by the name of Montorgueil. Both Montorgueil and Crèvecœur have been swept away by the waves of disaster; nothing remains of them but tradition. But there is a romantic tale told of Crèvecœur, which would be worth a poet's or a painter's picturing.

Under the same French invasion which dismantled the castle of Poilvache the people of Bouvigne made desperate resistance. Three young and beautiful ladies followed their husbands into the tower of Crèvecœur, fought at their sides, tended the wounded, and even helped to repair the breaches made by the besiegers in the walls. The knights at last fell fighting. Then their ladies, fearing a worse fate than death, mounted steadily to the parapet, joined hand to hand, and together plunged over the edge. A good subject for one of Robert Browning's dramatic sketches that would be, and more grateful withal than the horrible stories he has fixed on of late.

The approach to Dinant by the river is uncommonly pretty, especially if you drift in by the evening boat on a fine day. Then the irregular but rather commonplace buildings that line the banks on either side show more picturesquely; the fine old church looks solemnly down, while the angular masses of the fortress on the edge of the precipitous cliff immediately behind it catch the last glow of the sunset that dyes the smooth water with a flash of reflected rose from the upper sky. The little town is built chiefly on the right bank, and runs a straggling line of houses for a mile or two up the river on the narrow space which the jutting limestone rocks leave free. A stone bridge crosses from the left bank, on which the railway lies, to the little Place, where the market is held as usual by the side of the church. The old church itself is undergoing a great process of repair, which, it is to be feared, will deprive it of the few remains of architectural enrichment left on the exterior. The rich Gothic mouldings of the south and west doors are in a mutilated condition, but have at any rate the character of their original design. On the north side the remains of a corresponding transept door have been revealed by recent removals, but the reliefs and decorative detail are ground down to a mere vestige. The chapel on the south side of the choir, used as a baptistery, has a round arch, with the rude Romanesque sculpture and capitals of the shafts that belong to the earlier period of the church's history, but the interior generally shows considerable marks of having been pulled about at various periods. In spite, however, of discrepancies and restorations, the interior of this old church of Notre Dame de Dinant is very striking. The great height, the happy proportions, wide transepts, and beautiful open apsidal choir of five bays, the vault of which is supported on six slender columns, the continuous and handsome triforium, and the warm grey colour of the stone, unspoilt by painting, make up an uncommon and noble interior. Without, the excessive height, the narrowness of the nave, and the odd bulb-shaped central tower present a *tout ensemble* more strange than admirable, especially from the position of the church, which is pressed against the cliff on one side, and on the other seems trying to peer over the housetops into the river.

Of the old wooden houses for which Dinant was once famous, but few are left. We found a couple, used as a tannery in a back street, still covered with pretty geometric patterns in panels, but both in a shaky condition. Manufactories and *brasseries* are maiming the picturesqueness of Dinant, it is to be hoped to the increase of its prosperity. It has still more the aspect of a fishing village than a town, and it is difficult to realise that the Sire de Comines once wrote of it as "Très riche et très forte de sa grandeur." The spiteful comments of Madame de Maintenon seem nearer the truth. She lodged here when Louis XIV. was besieging Namur, and the *Grand Monarque* came to see her, though he was very gouty in both feet and the weather was bad. She did not approve of his having taken the trouble to make himself master of Dinant, and to blast a way through the Rocher Bayard for the road to Givet, and she wrote of the town: "Elle est crottée à ne pouvoir s'en tirer. . . . Le roi a tort de prendre de pareilles villes." Certainly Dinant does not deserve such a slur. It is a pleasant little place to stay in, gives some pretty subjects for the pencil itself, and is the very centre of a region abounding in beautiful scenery. Between the boats, the rail, carriages, and short crossways for pedestrians, it is an artist's own fault if he does not find it easy to work out the sketching grounds around him at Dinant.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE Board of Architectural Education announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:—

SUBJECT XV.

(*a*) DESIGN FOR A MUSEUM (DETACHED) IN THE PARK OF A COUNTRY TOWN.

Adams, P. J.	Evans, T. C.	Leadam, G. S.
Alison, W.	Fernyhough, S.	Lister, H. A.
Allison, W.	Forbes, A. S.	Loweth, S. H.
Armstrong, J. R.	Ford, L. S.	Maddock, R. H.
Batty, W. A.	Frater, R.	Moore, R. S.
Brooks, C. J.	Gooder, F. E.	Moscrop, W. N. J.
Brown, J. M.	Gossling, H. F.	Moss, D. J.
Burford, J.	Graham, R. D.	Nathaniel'sz, J. J.
Butt, P.	Hague, H. V.	Pace, C. L.
Carey, J.	Hamilton, A. B.	Palmer, J.
Carreras, L. E.	Herford, T.	Robertson, G. A. K.
Cheek, C. C.	Holt, G. H. G.	Ryan, H. A.
Ching, W. L.	Hossack, J.	St. Leger, C. D.
Clare, A. D.	Howcroft, G. B.	Sanders, T. A.
Cosser, G. A.	Jacob, J. H.	Shenstone, G.
Cullen, A.	Jones, L. F.	Spence, A. T.
Currie, J. K.	Jones, W. O.	Takekoshi, K.
Davison, W. R.	Jopling, A. B. B.	Taylor, J. A. C.
Donaldson, B.	Kassem, H. Z.	Walch, J. B. M.
Dowsett, T. W.	Koch, M. D. N.	Whitehead, P.
Duncan, R. A.	Lancaster, C.	Wilkinson, F.

(*b*) DESIGN FOR AN OPEN TIMBER ROOF TO A SCHOOL HALL.

Adams, W. A. C.	Grellier, C.	Robertson, M.
Armstrong, J. R.	Lavender, E. C.	Smith, A.
Aslin, C. H.	Lawton, W. V.	Toothill, J. C. P.
Booker, G. A.	MacMillan, A. L.	Vinden, G.
Cawkwell, R.	Moore, J.	Walker, D. H.
Craske, C. W.	Picton, C. S.	Walker, H. F.
Fyfe, J. S.	Pidsley, W. G.	Wright, C. H.
Gray, G. H.		

Designs for other subjects from the following candidates have also been approved:—

Burford, J.	Hamilton, A. B.
Carmichael, D. A.	Mortimer, A. L.

NEW DELHI BUILDINGS.

Indian Engineering says:—The opinions on the subject of the designs for the Government House and Secretariats at Delhi, even on the part of those who are fully qualified to speak, continue to be very vexed. The fact is that these designs, published in the way they have been, are not very conclusive. They are very satisfying at first sight, but the skilful light and shade effect of coloured perspective drawings in the hands of a fine draughtsman are liable to be very deceptive. It may be necessary to give laymen the power to realise the general appearance of a finished work, but this form of decorative draughtsmanship is nothing more than a trick; the real appearance may be improved out of all recognition; and then, later on, comes the *débâcle*. Even those who were disposed to give unqualified praise to the work at first have a sort of feeling that they have been let in. The hostile critics have always declared that the designs were unworthy of a great imperial city. They pronounce them to be very ordinary examples of Palladian or Wrenesque Renaissance, with a few oriental features, such as the Saracenic *chajja* instead of the classic cornice, and the parapet with very uncompromising *chattris*. They

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will not admit that there has been any skilful blending, but state that the result is just a crude association of styles differing widely in character. The so-called "light-houses" on the Secretariats, and the fountains on the roof of Government House have always been severely criticised. Both are losing ground even with those who at first professed to like them. The want of verandahs also means that the windows will have to be so chicked and blinded that light and air will be shut out. When, however, everything in the way of both praise and blame has been said, something will have been achieved. The designs are in no sense working drawings: they are merely impressionist sketches of proposed effects, and the criticisms passed on them will no doubt be useful to the architects when they proceed to the next stage of their work. They have never claimed that the designs were final, or more than they pretend to be; and this is therefore the time for criticism, free and unrestrained, but the criticisms should be genuine and not marred by any prejudice due to the Delhi move as a matter of policy. On the subject of the designs for the houses of the officials who have to live at Delhi, there would, however, seem to be only one opinion, and that a very unfavourable one. The designs take the form of "types" for quarters of officers of all degrees, and they are said to be the work of Mr. Nicholls, one of the Government architects. The responsibility cannot rest, however, with Mr. Nicholls, as he is no doubt working to the directions of the architects, Mr. Lutyens and Mr. Baker, who are in charge of the complete architectural scheme of the new capital. But, wherever the responsibility may lie, the designs have been very adversely criticised. The buildings have been described as "packing-cases" and "chokidars' huts," from which it may be inferred that they are small, compact, verandahless, featureless structures, devoid of any particular architectural merit. If this be true, it lends colour to the rumour that in the attempt to keep the expenditure on Delhi down to a minimum figure the designs for the subsidiary buildings are being scamped in order to provide for the work of the Government House and the pair of Secretariats. Action of this kind is very undesirable. If there is to be a genuine attempt to reduce expenditure, the reduction should be proportionate to the whole scheme. A Government House and Secretariats on a grand and lavish scale, and all other buildings dwarfed to save money for them, would not be architecture likely to meet with the general approval of the public. But it is to be hoped that the designs for the quarters of the officials, like the other designs, are not intended to be final; and if they are only trial "types" to invite criticisms and suggestions, the hostile comments on them will doubtless lead to improvements.

THE HIGH INTENSITY LIGHTING OF EUROPEAN CITIES, COMPARED WITH NEW YORK.*

By C. F. LACOMBE, Chief Engineer of Light and Power in the City of New York.

THERE is a comparatively new movement abroad for more intense or powerful illumination on congested streets. This movement in now much in favour, and is extending rapidly. After a careful study of it, it may be safely prophesied that once tried it will be in favour here.

As this is the main difference between foreign and American practice in illumination, and my time is limited, it will be necessary to make this the main topic and bring up other minor differences in connection with it.

Lighting of Crowded Thoroughfares.

This type of powerful lighting, in its perfection, has really had no good examples in New York or, perhaps, in this country until very recently, and generally where metallic electrode lamps are available. Examples of it exist in several places usually not sufficiently developed to impress anyone as this impression is given you in Berlin and London. A concrete instance of the lighting referred to is that shown in Berlin. On such streets as the Potsdamer Platz, Friedrich Strasse, Koniggratz Strasse, and in London on Cheapside and Regent Street. This very powerful lighting is not at all what is known in this country as "White Way" lighting. It is not an attempt to advertise a street or to draw attention to it by some novel decorative design or spacing of the lighting units. It is very strong, permanent, municipal lighting for the purpose of illuminating crowded streets to a point where ease of vision and consequent safety attempts an approach to the effect of daylight. In other words, one sees objects by their own reflected light, not as shadows or silhouettes against a lighter background. It was quite a surprise to me when this type of illumination was first seen on a large scale. It appeared that in spite of a consistent effort to increase greatly the intensity of the street lighting in New York, we are still behind the results obtained abroad. We are behind their results on greatly congested streets, but on such streets only. The average lighting in greater New York is as good, if not better, as some other observers assure me, than the average lighting of the two best foreign cities—viz., Berlin and London. But when the probable reasons for differences of illumination on congested streets here and there are carefully thought out, they become apparent at once, and while we must admit we are behind in results, we are not behind in the idea or effort to accomplish it.

Lighting Depends on Nature of City.

It resolves itself into the fact that our problem of the illumination of American cities, in the past, has been so different from theirs that our electrical and gas distribution system and appliances differ fundamentally. In order to obtain the advantages of the appliances used abroad, we have only to modify slightly our system and adopt lighting units of a different type in certain congested districts of a city to produce equally good results. We must admit, however, that these appliances are not immediately available to our use in this country.

The problem of the distribution of electricity and gas in this and other American cities has been that of covering a large area of a city and its suburb with an elastic system which could be extended greatly at a minimum expense.

The demand upon our manufacturers, then, was to develop such a system, capable of giving what may be described as a thin film of illumination extended over a large area. There was no demand until the last five years for a system which would give a comparatively thick film or fairly uniform illumination over comparatively small areas of congested streets. Abroad, however, the conditions in most cities are so different from ours that a demand for heavy, nearly uniform illumination did exist in their congested and narrow streets. The cities abroad are more compact than American cities, have narrow streets and fewer suburbs, and where they have suburbs of great importance they are taken care of independently.

This compactness probably comes from the fact that most of these cities were fortified until some time not so remote in the last century, and did not spread over large areas. A relic, perhaps, of the old protective feudal system by which proximity to the fortified centre of the over-lord was one's greatest safety. From the very reason of clustering within fortifications, or close to them, a congestion in foreign cities developed earlier than congestion was apparent in our cities, and the demand for more powerful lighting naturally occurred there first. The present city of Berlin is an exception to this, as it is really a modern city, without special fortifications, such as there are surrounding Paris.

No such problem exists abroad as in New York, where the question is the lighting of a territory of 321 square miles, which must be provided with nearly every grade of illuminating intensity, from that suitable to a country road to that suitable to Fifth Avenue.

They also have abroad a firmly rooted prejudice to allowing high-voltage currents in cities to be installed on the street in such a way that such currents could create any risk to life, so that so far as electric street-lamp circuits are concerned, except at a very few points, the highest voltage in the posts in most cities is 480 volts.

Chief Technical Distinctions between European and American Practice.

If the artist section of the audience will be patient for a few moments while a technical explanation is made to the engineering section, in order to describe the actual differences between the American and foreign system, an endeavour will be made to show the difference briefly in a technical way.

In speaking technically of the differences between our lamps and those used abroad, it should be understood that these statements are made strictly with reference to the high intensity lighting of our congested streets, and are

* **Abstract of a Paper read before a joint meeting of the Illuminating Engineering Society (U.S.A.) and the Municipal Art Society in New York.**

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not reflections on our general systems or their usefulness. In a way, they are also made with reference to my own problem of the lighting of this city, the congested portion of which is mainly in Manhattan and a portion of Brooklyn, where we have a direct-current, low-tension multiple system, fortunately, very adaptable to the high-intensity electric units used abroad. These units, as stated, are not in use now, but only slight modifications of our systems are required to make them available.

The demand of American conditions was met by the design and manufacture of the series system of arc lighting. All of these systems use comparatively a smaller amperage than the foreign multiple series system, and as the illumination is largely a function of the amperage, it is not relatively as high. In all our direct-current multiple lamps a considerable portion of the energy is lost in resistances interposed in each lamp.

In congested areas, the wires or conductors must go underground, and it is not considered the safest practice to carry high-series voltages into lamp-posts, although in this country such practice is used to some extent. Consequently, the American high-voltage series system does not, in my opinion, lend itself to the conditions of a densely populated metropolitan section of a city. While efforts have been made in the last five years to meet the demand for intense illumination in congested areas, for various reasons the appliances at hand have not been universally applicable.

Development of Flame Arc Lighting.

To meet the foreign conditions, the manufacturers there developed lamps which are operated in multiple series of two, four, six, eight, or ten lamps across a circuit with a potential of 120 to 240 or 240 to 480 volts, with a much higher current density than our lamps. They therefore gave more illumination for the energy supplied. Flaming lamps of this type are available in this country, but are quite expensive for the reason that their life is short per trim, and the carbons which must be used with them are high in cost on account of the import duty. The cost of these carbons amounts to a tax of from $40.00 to $50.00 per year on every multiple series open-flame lamp operated every night. The duty on these carbons is 65 per cent. *ad valorem*. This is not the case abroad: the carbons are very reasonable in price. (One of the foreign manufacturers of open-magazine flame lamps advised me that for his 150-hour lamp the carbon cost was one-fifth of a cent. per hour.) The multiple series lamps used abroad are operated in groups of about sixty, from an independent network served from the regular mains, with control wires brought back to the central station, obviating in this way the turning on and off of the individual lamp as on our multiple lamps in New York. This is economical, but has some inherent disadvantages.

To sum up, then, the efforts we have made here in trying to make flame arc lamps operate as single-multiple lamps across the low-tension, direct-current network of New York have not yet proved quite satisfactory, and to obtain the illumination on certain streets, as provided abroad, our arc lamps must be designed to operate in multiple series across a constant potential system with the amperes or current densities varying for the illumination desired. Such lamps are in use abroad, using eight, ten, twelve, fifteen, and twenty amperes at low voltages, sometimes as low as thirty-five volts across the arc. They are operated in multiple series, not over ten, between the distributing mains as described, and equipped with substitutional resistance to maintain the rest of the lamps in case of the extinguishment of one or more. The high illumination desired is thus obtained from these lamps, with little waste in energy and with more economy per unit of illumination. In other words, we are not getting the illumination per unit of energy that they do abroad, for the reason that to date the American demand has differed considerably from the demand made by foreign cities.

With alternating current flame lamps this trouble does not exist, for the reason that it can be obviated by the use of ratio transformers raising the current density at the arc to the desired point.

High-pressure Gas Lighting in London and Berlin.

In gas lighting a similar story may be told. Developed probably in Berlin or London about eight or ten years ago, and undoubtedly planned to compete with electricity, the high-pressure gas lamp of great candle-power was exploited. In 1909 London sent a delegation to Continental cities to note the illumination, and in their report to the London County Council this type of lighting was highly commended. With the improvements made in the past five years this lighting has become a decided competitor with electric lighting.

In using the term competitor, it should be qualified by this statement. The successful use of the high-pressure lamp depends largely on the excellence of its maintenance. From the whiteness of the light given when well maintained, it gives an effect of brilliance to a street illuminated by this system that is very attractive—more so than the yellow-flame arc lamp used in London and Paris, and equalling that of the nearly white-flame lamps of German cities. The yellow-flame lamp, on account of the reflection of its yellow light from dust and moisture particles in the air, gives an effect of denseness that is almost oppressive when compared to the clear brilliance of the high-pressure gas lamp.

To compare with an electric arc lamp of 12½ ampres, it requires a three-mantle gas lamp using about 60 cubic feet of gas per hour at a pressure of about two pounds per square inch. We have no high-pressure gas service or mains for lighting in this city, and, of course, no high-pressure gas lamps. In London and Berlin several miles of streets are equipped with this system, and "high-pressure gas," as they call it in London, is used for interior lighting, and particularly for the local application, quickly, of intense heat concentrated in a point for manufacturing operations. In these cities it is stated that a profitable business has been built up in this way. In operating high-pressure gas systems for municipal lighting only, compressor stations, like electrical sub-stations, are established. These take the low-pressure gas from the ordinary mains at lighting hours and compress it, using the high-pressure mains as their only storage reservoir. Low pressure is on the high-pressure mains during the day, so that the pilot jets keep burning. When the compressors start to build up pressure on the pipes, the high-pressure lamps are so designed as to light at about 700 mm., and, when the pressure falls in the morning, extinguish themselves by the reverse operation. To prevent too sudden application of the pressure to the mantle, the gas is admitted slowly by means of a thermostatic valve, which gradually opens by the action of increasing heat.

European and American Methods of Avoiding Glare.

There are two other marked differences between foreign and American practice in the placing of the lighting appliances and the methods used to avoid glare.

Abroad, the flame arc lamps and the three-mantle high-pressure gas lamps are placed, with few exceptions, from three to ten feet higher than our lamps on account of their greater intensity. With this height they consider they have gone beyond the angle between the lamp and the eye of the man on the street within which the effect of glare is produced. With glare so eliminated they use clear glass globes with flat white enamel reflectors, or reflectors which direct the major part of the illumination along angles close to the horizontal line, or prismatic reflectors, and throw along the street and downwards the full strength of the practically naked light source. In producing the high horizontal illumination of the street plane they place these powerful sources closer together than we do, and hence get the very powerful illumination desired on their crowded streets.

In this way they really get rid of most of the glare effect, although some still remains.

Here, for the very reason quoted already, on account of our less powerful light sources, we have placed our lamps lower down, thereby getting into the angle of glare; and then to obviate this we use diffusing globes which, while they produce a very agreeable effect, decrease to an appreciable extent the illumination we are really producing. Their method certainly produces more intense and relatively more efficient illumination than we are obtaining. On the other hand, the effect of our system is more attractive in its softer diffusion. With all respect, while a number of streets were observed that were much more intensely lighted than Fifth Avenue, none were as agreeable in appearance.

The many other smaller differences and characteristics of foreign flame lamps and high-pressure gas lamps and their use, as compared to American practice, cannot be enumerated here, on account of limited time, although it is my hope to publish them in another paper later.

During my trip last summer many cities were visited—

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Glasgow, Edinburgh, Manchester, London, Paris, Nurnberg, Berlin, Leipsic, Dresden, Vienna, Zurich, Milan, Florence, Rome, and Naples—but of all these cities only Berlin and London stand out as superior to New York and to the other European cities. Manchester, Birmingham, Glasgow, Paris, Leipsic, Budapest, Strasburg, and Munich all have certain sections of streets and some places or squares lighted on a plan similar to, but usually not quite so powerful as that of Berlin and London, but none approach these two cities in the miles of streets lighted in this way. Paris is behind either of them, and is still resting on its old reputation of the "City of Light." This reputation was obtained by using small gas-mantle units closely spaced, as will be shown later. Paris is just beginning to use electric flame lamps and high-pressure gas lighting.

Grading of Lighting According to Importance of Streets.

In Berlin and London the lighting is graded with the importance of the streets, as to traffic, stores, &c. In Berlin, what may be designated as class A-1 streets, are the Potsdamer Strasse and Place, Friedrich Strasse, Konig Gratz Strasse, Leipsiger Strasse, Unter den Linden, Konig Strasse, Invaliden Strasse, &c. In London the same class is represented by Regent Street, Cheapside, Oxford Street, Whitehall, Haymarket, Piccadilly, Fleet and Cannon Streets; in Paris by the Rue de L'Opéra, Rue de Rivoli, Rue Auber, the Grand Boulevards, &c. Similar streets in New York would be Fifth Avenue, from 14th to 60th Streets, Broadway, from 14th to 59th Streets, Sixth Avenue, from 14th to 50th Streets, Seventh Avenue, from 23rd to 50th Streets, and 14th, 32rd, 34th, 42nd, 69th, and 125th Streets, between the limits represented by 4th and 8th Avenues as well as the plazas at the intersection of Broadway and Fourth, Fifth, Sixth, Seventh, and Eighth Avenues.

Class A streets abroad are also powerfully lighted. In Berlin examples of this grade are Wilhelm Strasse, Alexander Strasse, Berliner Strasse, Bismarck Strasse, &c.; in London, Farringdon Street, Lower Regent Street and Victoria Street, the Mall, the Strand, &c.; in Paris, Rue de la Paix, Boulevard Malesherbes, Boulevard Raspail, &c. In New York the streets may be represented by the Lower and Upper sections of Fifth Avenue and Broadway, Madison Avenue, Park Avenue, Third and Eighth Avenues, and many side streets within the boundaries of the class A-1 streets given above.

The third class of streets, near the centre sections of all these cities, may be termed Class B and C streets, or streets not of special use at certain times of the day, and residence streets. The lighting of these streets is almost universally by mantle gas lamps with either vertical or inverted mantles from one to four and five in number, depending on the streets or sections of same. In many cities incandescent lamps are also used in the same way, but not, so far as observed, to such an extent as in Greater New York. In the lighting of residence streets the illumination in some sections of the foreign cities is slightly more powerful than American cities of the same class, but in the larger number of cities visited it is not equal to ours, and in several is inferior. It should be pointed out that in New York the degree of illumination given these streets is generally higher than that of foreign cities, and is carried out more uniformly in gas and electric lighting throughout all five boroughs of this city, with due provision for stronger lighting in suburban towns. In this respect it appears that New York is better equipped than foreign cities, and keeps its minimum lighting above their lowest grade of illumination. Such ordinary illumination need not concern us, however. It is to the powerful illumination of Class A-1 and Class A streets in Berlin and London that it is desired to draw your attention, with notes as to the points of excellence in other cities as they developed. While New York perhaps started or accentuated the demand for more intense street illumination in American cities, it is not alone in its efforts to get it.

The recent installation of magnetite or metallic electrode lamps in Washington and other places, large installation of flaming arc lamps in Chicago, and a recent exhibition trial of high-pressure gas lamps in Philadelphia shows that there is a necessity for intense lighting, and that it is being met in various ways.

The term used to express the unit illumination of a surface is a foot-candle. This means the illumination obtained on the inside surface of a sphere of one foot radius by a standard candle of one candle-power placed at its centre. On the Class A-1 streets and places in London and Berlin, the maximum illumination on approximately the street surface ranges from two to seven foot-candles, much more light in the latter case than is ordinarily used in reading-rooms or for general purposes of interior lighting. The minimum illumination on these streets is a quarter to one foot-candles, usually above half a foot-candle.

In this city the illumination is much lower. Broadway, at Times and Long Acre Squares, is probably as high illumination in any square as we have. The highest illumination found here was about 1.2 foot-candles. This is largely due to the stores and electric signs, for after these are extinguished the lighting is much less. The minimum found was about 0.08 foot-candles, when all lighting was on. Fifth Avenue, which is comparable in importance with Regent Street, and really is more important, has a maximum of about 1.7 foot-candles, at about 8 feet from a post, and a minimum of 0.5—decidedly below that of Regent Street.

It is to be noted, however, that this intense lighting abroad is cut down at least half at about midnight. This is justifiable when such powerful illumination is used. In that case, when half this lighting is turned out, what remains is about an average of ours during the entire night.

In giving the foot-candle measurements of lighting, it should be stated that they were taken by what may be termed reconnaissance measurements of my own and compared with accurate observations from detailed surveys given me abroad. The time was too short for me to make elaborate measurements to establish averages: the surveys were made to check high illumination and get illumination curves between lighting units along the street.

From this point it will probably be easier to show you the arrangements and appliances for lighting of these foreign cities by slides, pointing out on each slide the points of difference. There are a number of night photographs of the lighting. They are of no scientific value, and the photographs are not even comparable as to intensity, but will give you a good idea of the effect of the intense illumination and the consequent ease and scope of vision.

To give you an idea of what the different intensities mean, then will be shown, first, two slides, one an example of seeing objects in silhouette, and one giving a good idea of intense lighting, where you see almost as in the daylight. The first slide shows an automobile by silhouette against the lighting given by an arc lamp. At the intensity shown in the second slide you will see things in their colours, in correct size, and with nearly correct judgment of distance and speed of moving objects. The difference between seeing in this fashion and the strain of watching on a dimly lighted street is all the difference between ease and discomfort, certainty and uncertainty, safety and danger. We obtain this very satisfactorily at about 1½ to 2 foot-candles, as on Cheapside. It is questionable, in my mind, if there is any necessity of going above this limit, except under very extraordinary circumstances. Indeed, the very high illumination from over 2 to 7 foot-candles may be injurious for the reason that surrounding streets cannot be lighted to this extent, are consequently dim, and the sudden change from ordinary to very intense lighting, from the rapidity, strains the retina, so that a man driving an automobile rapidly might become momentarily dazzled or confused.

After the first two slides we begin with those of London streets, both day and night, showing the physical methods of hanging and spacing lamps and the effect of the illumination, as well as it can be shown by a photograph. So far as possible the slides will be shown in this manner, and the foot-candle measurements given as obtained and confirmed in order to present the subject as well as we possibly can without your actually seeing it on the ground.

Conclusions.

It is hoped that you will understand the differences between American and foreign practice in illumination and illuminating appliances. As far as intense lighting of congested streets is concerned, and in these only, considerable differences occur. In the lighting of all but Class A-1 and A streets, we are quite as advanced as they, and as economical, when the relative prices of the commodities of gas and electricity are considered.

The use of tungsten lighting, for instance, in New York far exceeds that of any foreign city and probably antedates them, for it was adopted at any early date in this city, as it was very easily adapted to American systems of dis-

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tribution, both multiple or series, alternating or direct current.

You will also note from the way they have cleared their side-walks of encumbrances that congestion is no new problem to them, but one that has been anticipated and taken care of, not only in lighting but in other ways. In this regard the efforts of the Borough President of Manhattan are far-sighted and wise in both widening and clearing the side-walks of encumbrances.

While New York has not yet reached London's congestion, it is rapidly approaching it. The great movements of workers from the centre of the island to their east-side homes early in the evening, the great streams of people flowing to the East River Bridges or the tube stations and ferries to New Jersey or to the great railway stations of the city *en route* to the distant suburbs, need more intense lighting than is now given. The great amusement crowds going to, or returning from, the theatres or opera late in the evening, with the great number of automobiles, taxi-cabs, or carriages employed to carry them, need stronger lighting than is now given. This lighting is required not only by the increasing crowds, but on account of the increased number and speed of motor vehicles over the old horse equipments. This element of high-speed motors is a very important one, and must be carefully considered in meeting the present condition. Taking motors into consideration, it is not so much *what one can get along with*, as *what is really necessary for safety* on streets used greatly for rapidly moving motor traffic. For this and other reasons more powerful lighting is needed in New York to-day almost as much as it was needed in London, and quite as much as it was in Berlin. This, at least, is the opinion of those of us who have seen this illumination and its necessity. Once installed, it will never be abandoned, for the eye comfort and safety given by it, when properly and judiciously installed, are at once appreciated. Remember this type of lighting is not to attract attention to one street, nor a display for advertising purposes on a certain street, as is the practice in some cities, when part of the expense is borne by merchants directly interested in the financial returns. It should be a sustained, consistent, permanent attempt to solve the problem of lighting greatly used streets at night during the hours they are used, so they are safe and one can see easily and instantly any approaching object. If such lighting is adopted in New York the foreign practice should be followed of turning out about half of it at about one o'clock.

At present the mileage of this lighting needed is not more extensive than London or Berlin, and it is a good time to begin and then follow by extensions as necessary. Nor do we need to follow exactly the foreign practice. It is my belief that a little more diffusion than they have would meet the requirements quite as well, and more agreeably. The bare fact remains, however, that the appliances we need to meet this requirement are not yet available to us on account of the difference in distribution systems.

Little prevents their introduction, however, nor is it prohibitive in expense, where absolutely necessary, particularly in the electric lighting, where it is not difficult to introduce two lamps in series across 120 volts, if not four or five across 240.

In gas, it means the laying of steel mains along certain streets, which may be utilised for heating, perhaps, during the day-time.

It is probable, however, that the question of the adoption of the multiple-series type of lamps and their expensive carbons may be obviated, as well as that of high-pressure gas lamps, by the use of the new "Nitrogen-filled" incandescent tungsten lamp, which is at once adaptable to our series or multiple circuits, whether alternating or direct current.

When the proper fixtures and glassware are perfected to reduce the great intrinsic brilliancy of this point source light, and provide for the dissipation of the heat developed, there is no reason why it cannot be adopted in place of other appliances for many obvious reasons. It is divisible within the limits of street-lighting practice, and if all we hope of it is realised, the problem may have been solved by what is really an American development, splendidly worked out.

In consequence, therefore, in New York we are really marking time awaiting results and also conducting nearly continuously successful experiments with this lamp, both on the streets and in buildings having great halls, like our armouries. For a short time, therefore, no further question of flame lamps or pressed gas need trouble us.

Interior Lighting in the United States and Abroad.

Before closing your attention should be drawn to one other difference between American and foreign installations that is most interesting to both of the societies represented here to-night. That is, the utter lack of any attempt at artistic, agreeable, or diffused lighting of interiors. A common interior lighting unit in England is the old cotton cord pendant with a bare lamp and an ill-fitting porcelain or coloured-glass reflector. Except for a very few examples where pioneers of the American systems of interior lighting have succeeded in making installations, this is the rule in England, and only slight improvements are seen on the Continent. This is admitted and deplored by English and Continental illuminating engineers, who say it is only by a slow process of education that they hope to remove it.

The most glaring example observed was in Westminster Abbey. When you consider this Abbey contains most of the memorials to the progress of the whole Anglo-Saxon race, and is really sacred to both America and England, one would expect the lighting to be carefully and perfectly treated. As a matter of fact, except in the chancel and choir, the fixtures in the Abbey consist of plain brass tube arms, three or four in number, radiating a foot or so from a plain brass spun ball. This in its turn is supported by a short rod ending in a canopy with a hook, suspended from the great height of the arches overhead to a point about 9 feet from the floor by an ordinary cotton-covered copper cord, possibly reinforced by a suspension wire. These fixtures are then equipped with bare incandescent carbon lamps with porcelain saucer-shaped shades.

If this is used in Westminster Abbey, it is not necessary to describe the practice in the rest of England. In justice to illuminating engineering in America I can say, in closing, that in interior lighting we are far in advance of any foreign practice.

AN ARCHITECT'S POSITION UNDER A CONTRACT.

SITTING in the Vacation Court of the High Courts of Justice on Wednesday, August 26, Mr. Justice Shearman resumed the hearing of the case of the Piccadilly Hotel, Ltd., v. Waring & Gillow, Ltd., and Lockwood. It was a motion to restrain Waring & Gillow, as contractors, from going to arbitration under a contract, and also to restrain Mr. William Lockwood, the architect, from acting as arbitrator.

Mr. Terrell, K.C., appeared for the plaintiffs, Mr. Green was counsel for Waring & Gillow, and counsel also represented Mr. Lockwood.

Mr. Justice Shearman remarked at the outset that the architect occupied a much-discussed and anomalous position. He was practically employed and paid by the building owners, and was in a certain sense their servant. In a certain sense he owed duties to the contractors as well, and in another way he was a species of arbitrator. The fact of his being an arbitrator was subject to discussion and decision, but it was quite clear that he owed duties to both parties. It was his duty to protect an employer in these matters. His Lordship did not understand in what way the bill for the work had been swollen so enormously, unless it was due to alterations which had got to be justified.

Mr. Green: There is no question about that. The alterations were very large indeed. That appears from Mr. Lockwood's letter, and was perfectly well known to the plaintiffs at the time. It is not in evidence, but it will not be disputed, I think, that this was a contract for the construction of a ballroom of two storeys below the ground—below the Piccadilly Hotel grill—and the alterations were due to the fact that water was encountered, which almost involved two entire architectural works.

Mr. Terrell: I don't agree with that at all.

Mr. Green said he would read Mr. Lockwood's explanatory letter of January 23 last. What plaintiffs had been asking for was some general explanation of a £4,000 certificate, which, according to their story, had come to them as a surprise. What they said was: "We don't want details. Give us some general idea of how this large sum has been incurred." Counsel read the letter of Mr. Lockwood to plaintiffs, in which he stated that after their conversation he failed to see the matter from their side, and he had already explained the position to Messrs. Waring & Gillow's representative. Plaintiffs (Mr. Lockwood continued) did

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not realise the extent of the original work. As a matter of fact, the contract sums had not been exceeded to any appreciable amount. The troubles encountered, necessitating what was practically a new building, in his (Mr. Lockwood's) experience were unprecedented, and could not be foreseen, and he thought everyone concerned was fully cognisant of them. Learned counsel, proceeding, said that after that letter plaintiffs made demands for more detailed particulars—accounts and that kind of thing—and Mr. Lockwood's answer was: "I am getting the accounts ready. They will be ready in a short time." On February 5 plaintiffs' solicitors wrote suggesting that he declined to give them information.

Mr. Justice Shearman: There is another letter of January 20, in which plaintiffs complain. It reads: "I see expenses and think it very extraordinary that a certificate was issued before you had brought the matter to my notice in any way whatever, particularly as these certificates represent a large amount, and particularly as the greater part are for additional work, authorisation for which has not been proved."

Mr. Green: It was not his business before certifying to say, "This is the amount I am going to certify for." He was put in a position of trust towards each. If they did that building contracts would be much more onerous than they are. Proceeding, counsel said it was not till February 6 that any demand was made for specific particulars, and then plaintiffs' solicitors asked for a list of all additional works to be delivered by the first post on the Tuesday following. That letter, presumably, was received by Mr. Lockwood on the Saturday morning. The particulars asked for were of a voluminous and complicated character, and Mr. Lockwood replied that it was impossible to give them the information asked for in the time. Upon that plaintiffs served him with a writ. Counsel contended that plaintiffs had endeavoured to build up a case of suspicion against their own architect, and his Lordship was invited to say that he had been acting in a kind of underhand manner, keeping things up his sleeve and refusing to perform his duties to his employers, and upon that his Lordship was asked to inflict a very serious hardship on his (counsel's) clients.

Mr. Justice Shearman: I observe that on the 23rd Mr. Lockwood sent a summary of the additional works executed to the Secretary of the Piccadilly Hotel.

Counsel for Mr. Lockwood said he would like to put a few facts before his Lordship in regard to the conduct of the architect. In July a notice was delivered by Messrs. Waring & Gillow upon the architect with respect to the arbitration. On July 21 Mr. Lockwood had a letter from the solicitors of the plaintiffs, in which they said they had received a letter from Waring & Gillow's solicitors advising that they had delivered notice about calling an arbitration in accordance with the terms of the contract. The letter went on to say that plaintiffs saw no reason for the arbitration, bearing in mind the action brought by Waring & Gillow. Mr. Lockwood answered that letter on July 23, pointing out that notice had been delivered to him, and adding: "I feel it my duty to take up the reference and proceed with the arbitration. I shall wait upon my clients and contractors and inform them of my intention in due course."

Mr. Justice Shearman: It is unusual to me that Mr. Lockwood should be made a party to this application. It is possible he can try this claim. That he should take a line claiming to try it makes one regard him with some suspicion.

Counsel: He doesn't desire me to say a single word that would cause your Lordship to come to one conclusion or another. He does not want one single argument raised as to whether he should enter upon this arbitration or not. I ask that Mr. Lockwood be released from the action at the earliest possible stage.

Mr. Terrell: I don't propose to trouble your Lordship with any remarks.

Mr. Justice Shearman said he felt that whatever happened it was extremely difficult not to do some injustice to somebody. The order he made might very well result in doing persons entitled to a sum of money out of it. On the other hand, if he were to allow the arbitration to proceed he did not think the building owners likely to get an unbiassed trial in all the circumstances of the case. However unfortunate it was that people should have to stand out of their money, the ultimate thing in those matters was to see that people got complete justice. He could not help bearing in mind that Messrs. Waring & Gillow had brought an action on the certificate, being well aware that there were disputes between Mr. Lockwood and the building owners. They proceeded on that, he thought, without sufficient material, and they could not go on with that litigation by getting summary judgment. It was quite clear to his mind that if they had proceeded with that action they could have incorporated any other claims, and in the course of the case it was stated that some months ago an offer was made to remit the dispute to some gentleman who had had experience of building contracts. That offer, if he recollected rightly, was repeated in court. At any rate, the action was subsequently dropped, and at that time the building owners were bringing an action alleging negligence against Mr. Lockwood, but not alleging fraud. Some very large items—extras of thousands of pounds—seemed to have been ordered by Mr. Lockwood on his own initiative, without the consent of his clients, and it seemed to his Lordship that by his unwillingness to give information when demanded Mr. Lockwood had disqualified himself in bringing a fair and impartial mind to bear upon this dispute. His Lordship intimated that he should make an order restraining the arbitration, and proceeded to remark that Mr. Lockwood was one of the most important witnesses to be dealt with, and his evidence must be taken by the tribunal that took the case. It would be difficult, his Lordship thought, to decide this dispute without Mr. Lockwood being cross-examined as to the part he had taken in the matter.

Mr. Green: Will my friend agree to the dispute being submitted to an independent architect?

Mr. Justice Shearman: It appears to me you want somebody with some legal knowledge.

Counsel for Mr. Lockwood asked that this gentleman should be dismissed from the action.

Mr. Justice Shearman: I have no power to dismiss you. You will have to proceed by summons, I think.

Counsel: There may be an appeal, and in that event my client would have to go to the higher court. I therefore suggest that the costs against Mr. Lockwood should be reserved.

Mr. Justice Shearman agreed to that.

RUBBER FLOORING.

AN interesting ceremony took place on Monday afternoon, 31st ult., when Mr. John M'Ewan, London, Chairman of the Rubber Growers' Association, formally, on behalf of the Association, handed over to the managers of the Royal Infirmary of Edinburgh the rubber flooring presented by them. The flooring, which covers the whole of the main right and left wing corridors and entrance halls of the Infirmary, measures over 800 square yards, and has been manufactured by the North British Rubber Co., Ltd., Castle Mills, Edinburgh. The pattern is in black and white from designs prepared by Mr. Frank Ed. B. Blanc, architect, Rutland Square, Edinburgh. In the right and left corridors, which each extend for almost 215 feet, the large black and white squares form an attractive perspective, suggestive of marble tesselated paving. It is in the entrance hall, however, that the artistic efforts of the designer have had the fullest scope. In the main hall, the Infirmary arms, crest, and motto, surrounded by an attractive border of classic design, show up effectively on a ground of pure white. The comfort and quietness of the flooring is remarkable, and its resilience to the tread strikes one at once upon entering the building. So far as the life of the flooring is concerned, it may be considered, it is said, as practically everlasting. This is largely accounted for by the fact that rubber "gives" instead of wearing.

In addition to the gift to the Edinburgh Royal Infirmary, the Rubber Growers' Association made presentations to Guy's Hospital and the London Children's Hospital. The flooring has in all cases been manufactured from plantation rubber contributed by various companies; and the manufacture and laying have been carried out by the rubber manufacturers, who undertook the work on special terms. While rubber flooring is naturally expensive, it is certainly not by any means prohibitively so, particularly when there is taken into account its long life. The cost, of course, varies according to the thickness and quality of the rubber, but it can, generally speaking, be laid at prices not materially exceeding that of marble. Owing to its quietness, cleanliness, and comfort, it is particularly suitable for hospitals, churches, public buildings, restaurants, hotels, and steamships, and even in private houses it has considerable application; it,

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for instance, makes quite an ideal covering for a bathroom or entrance hall. There is practically no limit to the designs which can be produced, and colour schemes and combinations can be arranged to match any scheme of decoration.

"OWEN JONES" PRIZES.

THE Council of the Royal Society of Arts hold a sum of £400, the balance of the subscriptions to the Owen Jones Memorial Fund, presented to them by the Committee of that fund in 1876, on condition that the interest thereof be spent in prizes to "Students of Schools of Art, who, in annual competition, produce the best designs for household furniture, carpets, wallpapers, and hangings, damasks, chintzes, &c., regulated by the principles laid down by Owen Jones."

Competitions, under the terms of this Trust, have been held annually since 1878.

The next award will be made in 1915, when six prizes are offered for competition, each prize to consist of a bound copy of "The Leading Principles in Composition of Ornament of Every Period," from the "Grammar of Ornament," by Owen Jones, and the Society's bronze medal.

The prizes will be awarded on the report of the examiners in the National Competition of the Board of Education. Designs submitted for these prizes must be sent in with the other works forwarded for the National Competition. They must be marked "In competition for the Owen Jones prizes," and must comply with the rules governing the National Competition as issued by the Board of Education.

No candidate who has gained one of the above prizes can again take part in the competition.

NATIONAL HOUSING.

On Friday, August 21, the President of the Local Government Board received a deputation of representatives of the National Housing and Town Planning Council, including the following members of the Committee:—Councillor Harold Shawcross, J.P. (Chairman), Rochdale; Alderman W. G. Wilkins, J.P. (Ex-Mayor of Derby); Alderman J. P. Spencer, J.P. (Tynemouth); Councillor T. R. Marr (Manchester); Major C. P. Lovelock (Carshalton); Councillor F. M. Elgood, J.P. (Ruislip-Northwood Urban District Council); Mr. E. R. Abbott (Ruislip-Northwood Urban District Council); Mr. Raymond Unwin, F.R.I.B.A. (Hampstead); Mr. B. Seebohm Rowntree, J.P. (York); Councillor S. Smethurst, J.P. (Past-President, Federation of Building Trade Employers); Mr. Albert E. Cave (London); Mr. A. W. Shelton (Nottingham); and Mr. Henry R. Aldridge (Secretary).

Mr. Noel Kershaw, Assistant Secretary, Local Government Board, was also present.

The Chairman and Secretary briefly introduced the deputation, and placed before the President of the Board the following Memorandum. The Chairman specially emphasised the fact that the members of the Committee were unanimously of opinion that the rate of interest for housing loans under the new Act was a point of fundamental importance.

Memorandum placed before the President of the Local Government Board by representatives of the National Housing and Town Planning Council.

We gladly recognise that the Government, acting through the Local Government Board, wish to do all within their power to stimulate the building of houses by Local Authorities and by public utility societies during the war period.

We believe this policy to be a wise one for two special reasons:—

1. That the supply of private capital for financing building operations will be greatly restricted during the period, and there may be a great lack of employment in the building trade, with consequent distress.

2. That it will be better to keep the building trade supplied with useful work than to allow conditions of bad trade to arise with all the consequent waste of money on costly and more or less ineffective relief works.

We believe that many Local Authorities will be willing to take action in regard to the building of houses where a shortage can be shown to exist, and that facilities given by the Government to secure this end will be welcomed and consequent action taken.

Two points are, however, of fundamental importance, viz.:—

(*a*) While recognising the difficulty which the Treasury may have in financing housing schemes at the present time, we are convinced that any proposal which involves the payment of interest by Local Authorities at a rate higher than was current before the war would meet with little response from them.

(*b*) The procedure for granting housing loans should be the one familiar to Local Authorities—viz., for periods of sixty years for building and eighty years for land.

We desire to add that, in the opinion of the majority of the members of our Committee, it is most important that the Government should stimulate Local Authorities in undertaking housing schemes by making capital grants in aid of the expenditure upon such schemes.

We also suggest that arrangements should be made for the granting of housing loans to public utility societies at rates of interest current before the war during this exceptional period, and that the proportion of the loan to the value of the property should be raised from two-thirds to nine-tenths.

The Government may, in making these loans in war time, have to make some sacrifices—for example, the difference between the rate at which they can borrow and the rate at which they lend to Local Authorities. In return, we think the Local Government Board should stipulate for several special features in the various housing schemes submitted by Local Authorities.

Thus we would strongly urge that wherever possible houses built in urban districts should be built under town planning conditions, with a limitation of houses to the acre of from twelve to sixteen.

We would urge that in rural areas provision should be made for each house having a site area of a quarter of an acre, or that, if it is decided to build on less than this area, in no case should there be more than eight houses to the acre, and that provision should be made for those tenants who wish to obtain extra land for allotments close to their homes. We think that Local Authorities should also be required to adopt a good standard of housing—for example, the sizes of rooms should not be less than those recommended by the Small Holdings Committee, and three rooms in addition to the living-room should be provided.

We would press upon the Government the desirability, if this be possible, of allowing such houses to be built with concessions in the width of roads in a simple form of town planning scheme applicable to the area on which the houses are to be built.

Reply of the President of the Local Government Board.

Mr. Herbert Samuel, in replying, said that the great interest shown by the Government in the points raised by the deputation could be seen from the fact that the Government had before adjourning on August 10 passed a Bill providing for the issue of £4,000,000 for the purpose of housing. The Government had, of course, realised that a point of fundamental importance in regard to housing loans under the new Act was that of the rate of interest for these loans.

A Conference to consider this point had been held at which he had met representatives of the Treasury and of the Public Works Loan Commissioners, the Secretary for Scotland, and other gentlemen advising him in the matter.

As a result of this Conference, and with the approval of the Committee on Urban Housing recently appointed, he had sent a circular to the Local Authorities. In this circular he stated that it was the intention of the Government that such sums as might be made available under the new Housing Act should be utilised for the joint purposes of providing and improving housing accommodation for the working classes, and of preventing or mitigating unemployment in the building trades. The Treasury would be prepared, so far as circumstances might permit, to consider advances to Local Authorities of money for approved schemes of building which would meet the above objects at the rate at which the Government might be able to borrow.

In regard to the proposal that loans should be granted at a fixed rate per cent.—say, 3½ per cent.—during the war period, he wished to point out that no one could possibly forecast what the rates of interest would be for several years after the war. Many great nations were consuming capital at the rate of millions of pounds per day, and this would produce a scarcity of capital at the end of the war. If, in addition, we had in this country a

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trade boom, the rate of interest would be high as a result of the great demand for capital.

In closing, Mr. Samuel again expressed his earnest desire to do all that he could possibly do to stimulate housing action by Local Authorities in this period of national need.

In the discussion which followed Mr. Samuel again made it clear that in cases under the new Housing Act the Government would lend Local Authorities money at the rate of interest which the Government had to pay: that the money thus lent would be lent for periods of sixty years for building and eighty years for land. He thought that if at the end of the war period, or at subsequent periods, Local Authorities could borrow money at lower rates of interest, they would be allowed to use it to extinguish the loans granted during the war period.

Mr. Samuel also stated that the Treasury had consented to the granting of loans to public utility societies for nine-tenths of the value of the property, as against the two-thirds provided for in the Act of 1909. The question of the rates of interest to public utility societies and the periods of the loan was, however, still under consideration.

Mr. Unwin and Mr. Shawcross raised points as to the possibility of securing the co-operation of Local Authorities and public utility societies for the purpose of building. Mr. Samuel promised to consider these fully if Mr. Shawcross and Mr. Unwin would place before him in writing the precise schemes which they had in mind.

In regard to the question of the planning of the land to be built on, he had already given consideration to the matter, and he proposed to communicate with Local Authorities at a later date. It had, however, been thought better not to deal with the question in the circular already issued.

Councillor Marr and Alderman Wilkins raised the question of the possibility of using part of the £4,000,000 provided for in the Housing Act for the purpose of grants in aid.

Mr. Samuel, in replying, stated that it was not the intention of the Government to use this £4,000,000 for the purpose of grants in aid. If they began to do this every Local Authority borrowing money would expect to get a grant. Their great aim was to induce Local Authorities to undertake housing schemes.

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. FRANCIS BUMPUS.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

THE RENAISSANCE.

(*Continued from page* 175.)

THE architecture of the Italian Renaissance may be divided into three epochs or phases. To the first belong those buildings of the early part of the fifteenth century when the revived art was only feeling its way, and had not obtained that firm footing on the soil of Italy that the following century established. To the second phase must be assigned those works in which the principles of Classic architecture had become firmly established, and which held their ground until the first quarter of the seventeenth century, when a reaction from the cold *classicismo* of the preceding one took place, evidencing itself in lawless and, it must be added, vulgar extravagancies.

First among architects of the incipient Renaissance stands Filippo Brunelleschi (1377-1444), who, though educated for far different pursuits, at an early age brought his powers of mind to bear, first on geometry, then on Dante and his writings, and eventually applied himself wholly to architecture, and, by earnestly studying the ancient masters at Rome and elsewhere, became imbued with the true spirit of the antique, and revived the ancient orders of the Doric, Ionic, and Corinthian.

The Duomo of Florence, begun at the close of the thirteenth century, had its great octagon still uncovered at the beginning of the fifteenth. Its architect, Arnolfo da Lapo, died leaving little, if any, information as to what he intended to do with it, so that when Brunelleschi was commissioned to finish it he had no original design to guide him. Under the circumstances, and the influence of the dawning Renaissance, he hastened to Rome and made an earnest study of the famous dome of the Pantheon, that wonderful fane described by Byron as—

> "Simple, austere, sublime,
> Shrine of all saints, and Temple of all Gods,
> From Jove to Jesus—spared and blest by time."

Returning to Florence, Brunelleschi built the dome of the cathedral as we now see it. The height of the cupola of Florence Cathedral from the ground to the summit of the cross is 385 feet. It consists of an outer and an inner shell, connected together at intervals by walls, and it is octangular on plan. Other cupolas had been constructed previously to this, as at St. Mark's, Venice, and at Pisa, Parma, and Cremona, over the huge detached baptisteries there; but this one at Florence rivalled them all, both in size and originality of construction.

During this period also Brunelleschi built the churches of San Spirito and San Lorenzo at Florence—Classic buildings on mediæval lines, and in many respects similar. The former is a vast cruciform church with a central dome, remarkable not only for the succession of miniature apses formed within its side walls, but for the aisles, which are not only continued into the transepts, but are carried along their north and south ends, and also throughout the square-ended eastern limb.

Leon Battista Alberti (1398-1472) was a nobleman by birth, and son of Lorenzo and nephew of Cardinal Alberto of the Alberti, a Florentine family. Educated with the greatest care, and having a knowledge of mathematics, painting, and sculpture, and possessing a natural taste for the fine arts, he was not long in deciding on the profession most suitable to a man of such varied acquirements. The church of San Francesco at Rimini bears witness to his powers of design, and is perhaps the most talented of all his works. The interior is still in the Gothic style, but the whole of the exterior was remodelled from his designs and embellished with choice marbles. At Florence Alberti built the circular church of the Annunziata, which is wanting in many of the graces distinguishing his other works. His church of Sant' Andrea at Mantua was begun a little before his death, and is remarkable for the coffered waggon vaults which cover the nave, transepts and choir, and spring from pilasters and cornice of the Corinthian order. At the crossing is a complete dome, carried by four great arches, the type of all the subsequent churches in the style.

The façade is undoubtedly wholly Alberti's design, and follows a scheme which he used elsewhere of a Roman triumphal arch. About two years before the commencement of Sant' Andrea at Mantua, Alberti completed the façade of Sta Maria Novella at Florence, which, like that of many another Italian Gothic church, had been left unfinished by its original promoters. In this façade of Sta Maria Novella, and also in that of his church at Mantua, the application of the pediment motive by Alberti is illustrated. Though very different from each other, the elements of the arrangement are similar. The use of scroll forms for connecting the aisle roofs with the clerestory, and which was carried to excess in later Renaissance churches, was perhaps first resorted to here.

There is no great departure at Sta Maria Novella from the usual type as seen at San Miniato, but the whole mediæval scheme is brought into Classical character very gradually by an element of harmonious proportion introduced by the applied orders, the absence of such designed proportions being obvious in the mere arrangement in the earlier system of marble panellings.

During the early part of the fifteenth century, when the revived art was only feeling its way, and had not obtained that firm footing on the soil of Italy that the following century established, the names of great architects were few in number, and the two whose most important works have been briefly alluded to—Brunelleschi and Alberti—were the guiding stars of this epoch. Nevertheless, other architects flourished, some of whose works were of no mean merit, and amongst these were Michelozzo Michelozzi, a Florentine and a pupil of the sculptor Donatello. This architect succeeded in making a design for the palace of Cosmo de Medici, by which he secured the patronage of that influential man, and superseded Brunelleschi, who had previously made a design which was considered too sumptuous. Michelozzo built the famous library of the Benedictines at San Giorgio, Venice, to which city Cosmo had been banished in 1433, and whither his architect followed with a devotion rarely witnessed in modern times. One of his most graceful works is the long open porch or loggia in front of the cathedral at Spoleto, and the church of San Marco at Florence.

About the middle of the fifteenth century flourished the

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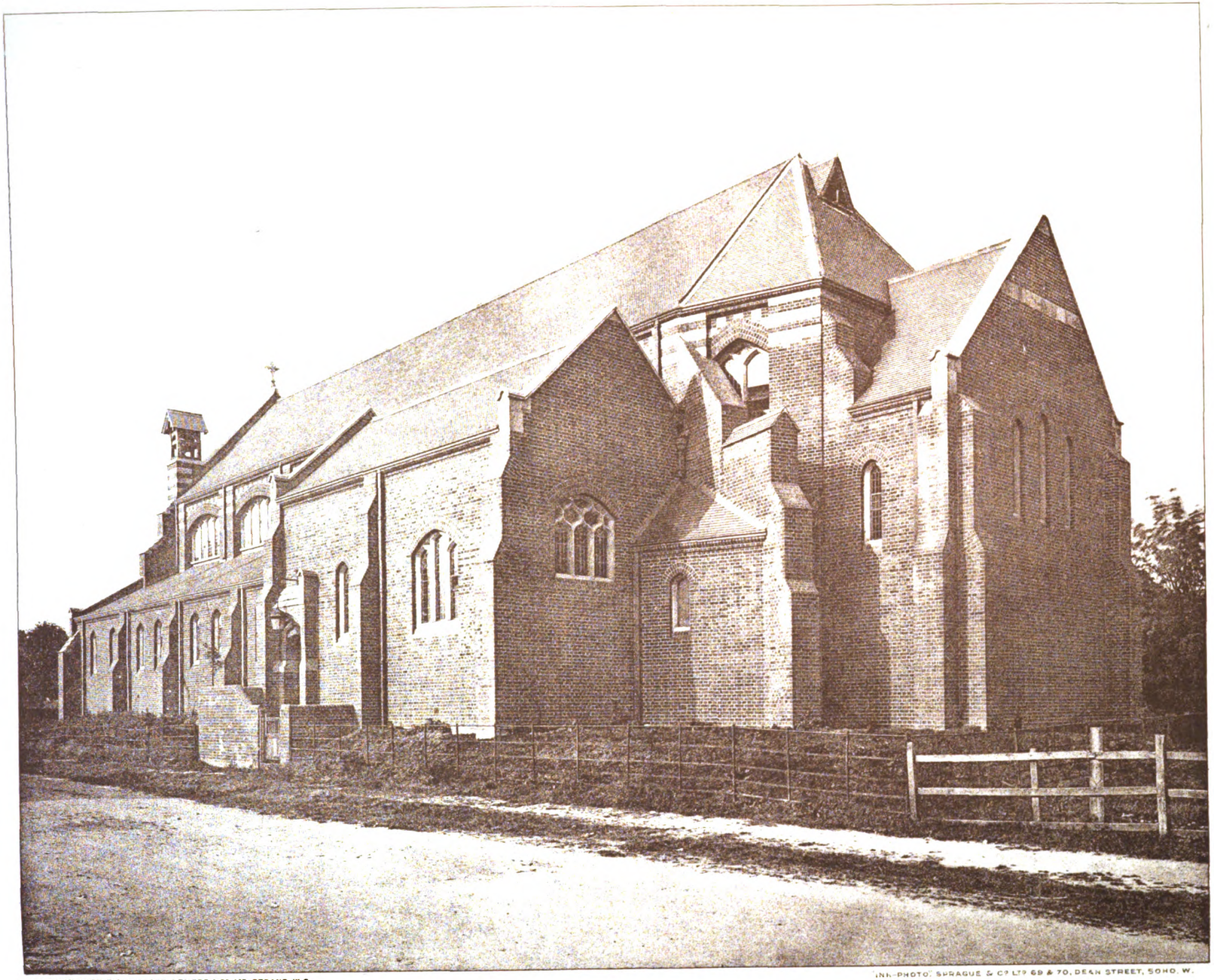
MORTUARY CHAPEL OF THE MERLI-MAGGI FAMILY: IN MONUMENTAL CEMETERY, MILAN.

Signor ALFREDO MELANI, Architect. Signor EUGENIO PELLINI, Sculptor.

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EMMANUEL CHURCH, NORTHWOOD, MIDDLESEX: VIEW FROM SOUTH-EAST.

Mr. F. M. ELGOOD, F.R.I.B.A., Architect.

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HOUSE AT NORTHWOOD, MIDDLESEX.

Mr. F. M. ELGOOD, F.R.I.B.A., Architect.

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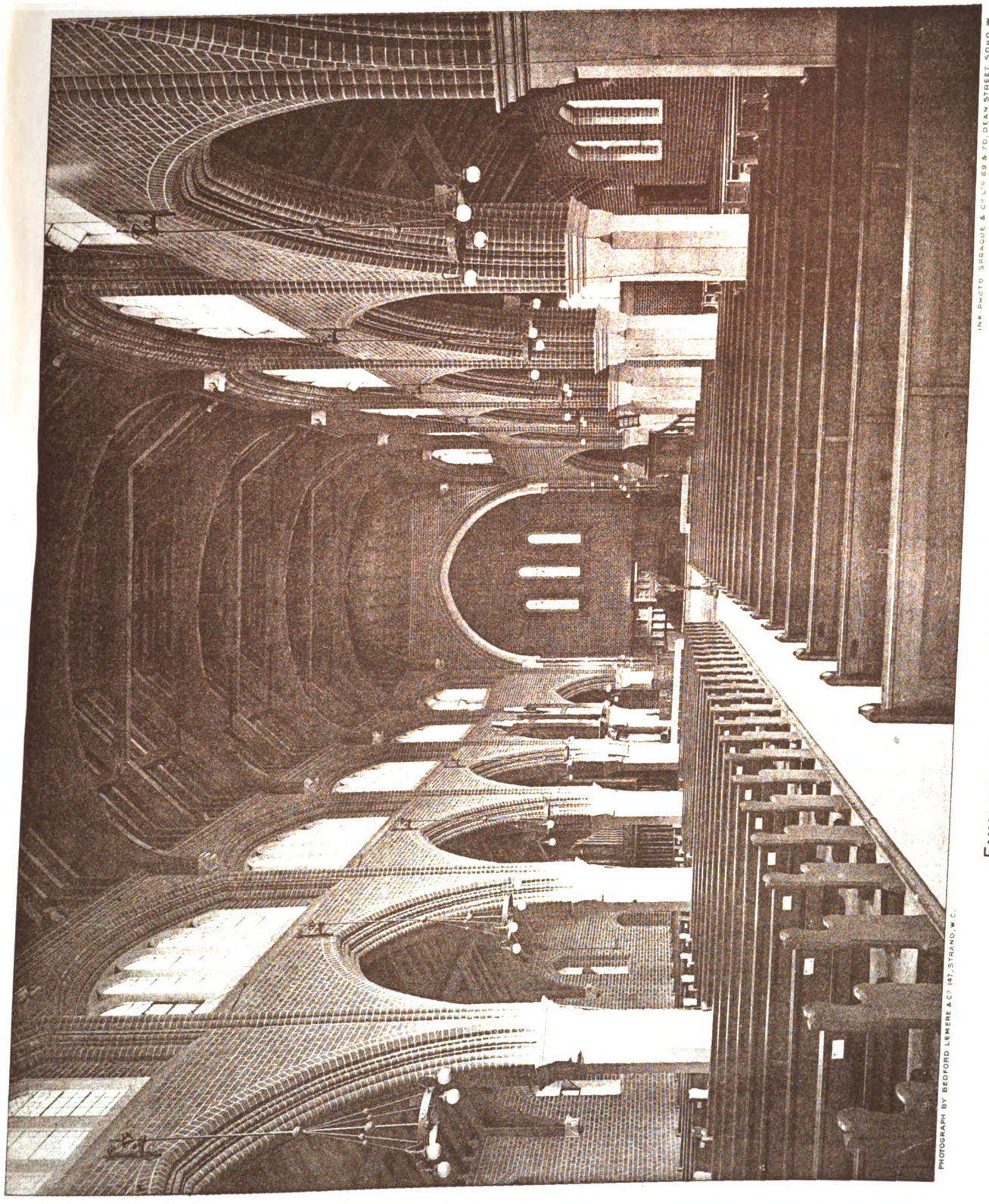
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EMMANUEL CHURCH, NORTHWOOD, MIDDLESEX: INTERIOR.

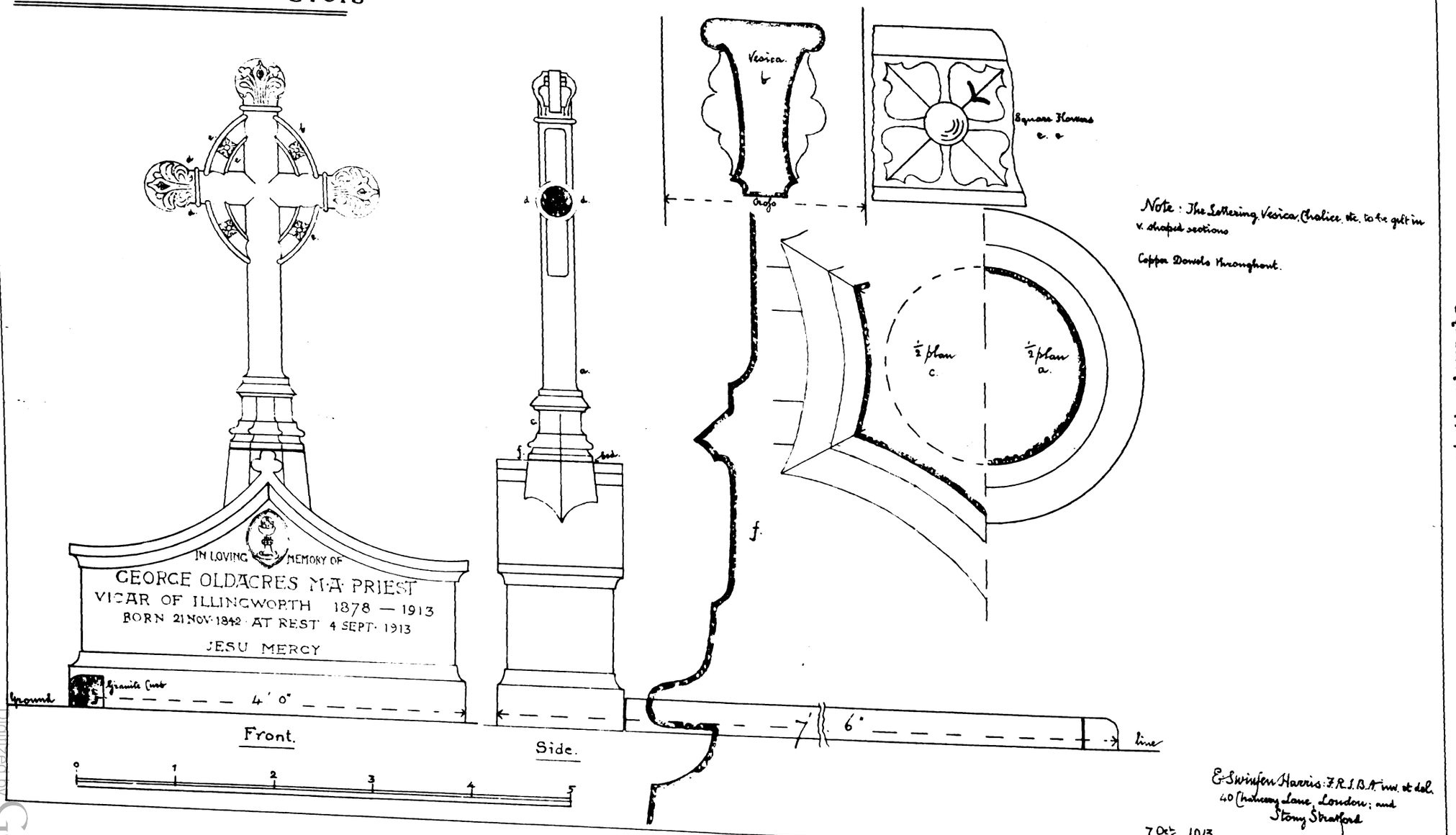
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MEMORIAL CROSS AT ILLINGWORTH, WEST RIDING, YORKS.

Mr. E. SWINFEN HARRIS, F.R.I.B.A., Architect.

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celebrated architect Bramantino, whose field of operations was chiefly in Milan and its neighbourhood. He erected the church of San Satiro in that city, which has been much praised, more, however, on account of the sumptuousness of its decoration than for the beauty of design; for the numerous arcaded corridors, and the many statues with which it is adorned, detract from the main features of the design and render them somewhat confused.

This church of Sta Maria presso San Satiro at Milan deserves notice on account of its excellent proportions, and must have served as a kind of prototype for St. Peter's at Rome. Indeed, the effect of the church in ensemble is quite as fine. It has no eastern limb, the line of a street just eastward of the crossing having obliged Bramantino to alter his plans. There is a nave covered with a barrel vault, aisles, transepts and dome, and as the architect could not complete his Latin cross, he produced the perspective of a sham choir behind, not painted, as some handbooks state, but carved upon a slight apse, and so well is the chiaroscuro managed that from a certain point the illusion is perfect. It is certainly a wonderful instance of scenic effect; but marvellous as it is its adoption is to be deprecated.

Bramante, whose works belong to the succeeding century, is said to have benefited by studying his works, and tokens of this are apparent in many buildings erected by him. In those times the sister arts of painting and sculpture were frequently combined with the more practical art of building, and the appellation of "painter and architect" was as common then as "architect and surveyor" is in the present day. The artistic ideas of the twentieth century architects are often deadened by the worry of business; and this is greatly to be deplored, for the real artist should be free from the petty cares and anxieties which engross the bustling matter-of-fact people of the present day. A liberal emolument will not evoke talent; nevertheless architects, to do their work truly and thoroughly, require to have sufficient means to drive away anxious thoughts for the morrow, and the ancient architects were treated in a more liberal manner than those of to-day, or they could never have bestowed that painstaking care on their buildings which is so frequently exhibited, since their whole time and thoughts were often confined to one building, while the multifarious duties of the present-day architect disqualify him for taking that high position which was so acquired by the architects of the Renaissance.

Besides those works of the fifteenth century to which cursory allusion has been made, the following are among the most remarkable of the writer's acquaintance. The façade and doorway of the old sacristy of the Certosa at Pavia, by Ambrogio da Fossana (1473); the Colleoni Chapel on the north side of Sta Maria Maggiore, at Bergamo (1470); San Zaccaria at Venice, attributed to Antonio di Mario (1446-1515); Sta Maria dei Miracoli, at Venice, by Pietro Lombardo (1480-90); the Chapel of San Giovanni Battista (upon which several of the most distinguished artists and sculptors of the Cinque-Cento were engaged during the latter part of this century), on the north side of the nave of Genoa Cathedral; and the facade, with its porch, of La Madonna dei Miracoli at Brescia, perhaps one of the most charming works of its age and class that was produced in the whole course of the Early Renaissance. It is to this epoch of the style that must be assigned the north and east gates of the Baptistery at Florence.

About the year 1401 the Guild of Merchants in that city resolved to add another bronze gate to the Baptistery, or Church of San Giovanni, that vast octangular structure which stands a little in advance of the west front of the Duomo. They were determined that their gift should not be unworthy of standing in the same building with the gate which gained for Andrea Pisano the great honour of the freedom of the city, when the Seignory, accompanied by the Ambassadors of Naples and Sicily, went in procession to inspect it.

The authorities of the Guild were shrewd men of business, but they knew of no way to secure the best design more effective than an open competition. They did not, however, ask for a design for the entire gate, as would be done by a corporation in our own time. A single panel was to be submitted as a trial piece, and the subject given for it was Abraham's sacrifice. Quercia, Valdambrina Niccola d'Arezzo, Simone da Colle, Brunelleschi, and Ghiberti entered the field. It is sometimes said that Donatello was a competitor, but this is very doubtful. Ghiberti was at that time a young man of twenty, employed as a goldsmith and worker in metal. The Guild of Merchants appointed a sort of committee, consisting of thirty-four persons, to examine the trial pieces, and they selected the panel by the two Florentine competitors, Brunelleschi and Ghiberti. Brunelleschi declared that his work was excelled by Ghiberti's, and through his generosity the competition was decided. Copies of the trial pieces are now in the Victoria and Albert Museum, South Kensington.

(To be continued.)

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Amersham.—Hospital. Messrs. Wills & Anderson, A.A.R.I.B.A., architects, 24 Bloomsbury Square, London.

Prestwood.—Proposed two Children's Homes (£750), for Amersham B.G.

CHESHIRE.

Macclesfield.—Elementary Council School, Lansdowne Street, Hurdsfield (for 500 children). Messrs. Whittaker & Bradburn, architects, 19 King Edward Street.

Modern School: Proposed alterations.

Malkins Bank.—P.M. Church.

DORSET.

West Parley.—Proposed Parish Hall, West Moors Road (£600).

DURHAM.

Craghead.—Forty houses for Messrs. Hedley Bros.

Ryhope.—Church: Proposed enlargement (£1,800).

ESSEX.

Harwich.—Workmen's dwellings.

Stanway.—Children's Homes for Lexden and Winstree B.G.

Upminster.—Two houses, Champion Road, for Messrs. W. P. Griggs & Co., Ltd.

GLOUCESTERSHIRE.

Bristol.—North Public Baths.

HAMPSHIRE.

Farnborough.—P.M. Church, Peabody Road. Mr. Guyer, architect.

HERTFORDSHIRE.

Codicote.—Parish hall.

Letchworth.—Unionist Club: addition.

"Cranford," Baldock Road: addition.

ISLE OF WIGHT.

Yarmouth.—Rectory. Mr. W. D. Caröe, F.R.I.B.A., architect, 3 Great College Street, Westminster, London.

KENT.

Bromley.—Workhouse infirmary. Mr. F. D. Smith, A.R.I.B.A., architect, Parliament Mansions, Victoria Street, London, S.W.

Dover.—Royal Victoria Hospital. Messrs. Worsfold & Hayward, architects, Market Square.

Westerham.—Eight working-class cottages, for Sevenoaks R.D.C. (£1,700).

LANCASHIRE.

Accrington.—Library, Oswaldtwistle. Mr. Palmer, architect.

Atherton.—Hall and clubroom, Hilton Street, for Mr. M. F. Burrows.

Bolton.—Boys' Grammar School.

Girls' High School, off Chorley New Road.

Burnley.—Proposed two Council Schools (£26,900).

Chorley.—Chapel, Blackwood. Mr. R. B. Preston, A.R.I.B.A., architect, 90 Deansgate, Manchester.

Crompton.—Technical School, High Street.

Patricroft.—Council School, Winton, for Eccles Education Committee.

Withington.—Temporary hospital for 100 children. Mr. F. H. Overmann, architect, 49 King Street, Manchester.

LEICESTERSHIRE.

Lutterworth.—Cottages, for Mr. Hawksley.

Peatling Parva.—Two cottages, dairy, &c., for Major Garmell.

Sutton-in-the-Elms.—Houses, for Leicestershire C.C.

LINCOLNSHIRE.

Brigg.—Workhouse Infirmary (£7,500).

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ENGLAND—*continued.*

MIDDLESEX.

North Finchley.—One hundred workmen's dwellings, the Woodhouse Estate (£26,450).

NORTHUMBERLAND.

Haltwhistle.—Proposed Council School for 250 places.

Newcastle-upon-Tyne.—Municipal houses, St. Laurence Square and Walker Road.

SOMERSET.

Taunton. Public Baths.

STAFFORDSHIRE.

Hednesford.—School, Hightown, for Cannock U.D.C. Messrs. Bailey (F.R.I.B.A.) & Solon, architects, Bridge Street, Walsall.

Kingswinford.—St. Mary's Church restoration. Mr. T. Robinson, architect, Victoria Chambers, High Street, Stourbridge.

SUFFOLK.

Ipswich.—Isolation Hospital extension (£8,000).

SURREY.

Tadworth.—Cottages, for Epsom R.D.C. Mr. A. C. Williams, architect, 53 Doughty Street, London.

SUSSEX.

Angmering.—Two pairs of cottages. Mr. C. W. Leney, surveyor to East Preston R.D.C.

Chaseburn.—Parish Church: additions. Sir Aston Webb, K.C.B., R.A., &c., architect, 19 Queen Anne's Gate, London, S.W.

WORCESTERSHIRE.

Bromsgrove.—Council School, Watt Close.

Evesham.—Working-class dwellings, King's Road.

Kidderminster.—Children's homes, for the Board of Guardians.

YORKSHIRE.

Doncaster.—Workhouse Infirmary: additions.

Guisborough.—Workhouse. Messrs. Taylor & Minor, A.R.I.B.A., architects, Post Office Chambers, Darlington.

Halifax.—St. Mark's Church, Siddal. Messrs. Walsh & Nicholas, architects, 10 Harrison Road.

Congregational Church, High Road Well.

Hiendley.—Five houses, South Hiendley, for Messrs. J. & A. Keeling.

Three houses, Upper Hiendley, for Mr. Humphreys.

Huddersfield.—Proposed central Baths, Cambridge Road.

R.C. Church, Lowergate, Longwood.

Leeds.—The "Eagle" Tavern, York and Carver Streets: rebuilding. Messrs. T. Winn & Sons, architects, 84 Albion Street.

Rothwell Haigh.—Factory for explosives at Stourton Chemical Works for Messrs. Brotherton & Co., Ltd.

Sowerby Bridge.—Proposed Public Baths (£7,000).

Withernsea.—Proposed Council School for 132 places, for East Riding Education Committee.

WALES.

Cardiff.—Public Hall, Westgate Street. Messrs. Willmot (A.R.I.B.A.) & Smith, architects, 20 Working Street.

Cwmlai.—Council School (£7,000). Mr. D. Pugh-Jones, County architect, Charles Street.

Wrexham.—Proposed working-class houses, Holt Road.

SCOTLAND.

Bonhill.—School: extensions. Messrs. Boston, Menzies & Morton, architects, 25 Church Street, Dumbarton.

Dundee.—Alterations on property, Hilltown, for Mrs. E. F. Cuthbertson and Mr. G. Anderson.

Dunfermline.—Elementary school (for 1,000 places), Rosyth.

Edinburgh.—Two cottages, Baileyfield Road, Portobello, for Messrs. R. & J. Scott.

Simon Square: alterations, for Messrs. R. Laidlaw & Son, Ltd.

Renton.—Masonic Hall: alterations (£1,800).

IRELAND.

Castlebar.—District asylum: bakery.

Dalkey.—Thirteen workmen's houses (£10,000).

Galway.—Sanatorium. Mr. W. A. Scott, A.R.H.A., architect.

Kells.—Fifty-six labourers' cottages. Mr. O'Haire, architect; also

Town Hall.

Kilmallock.—Bruff dispensary: additions and alterations for B.G.

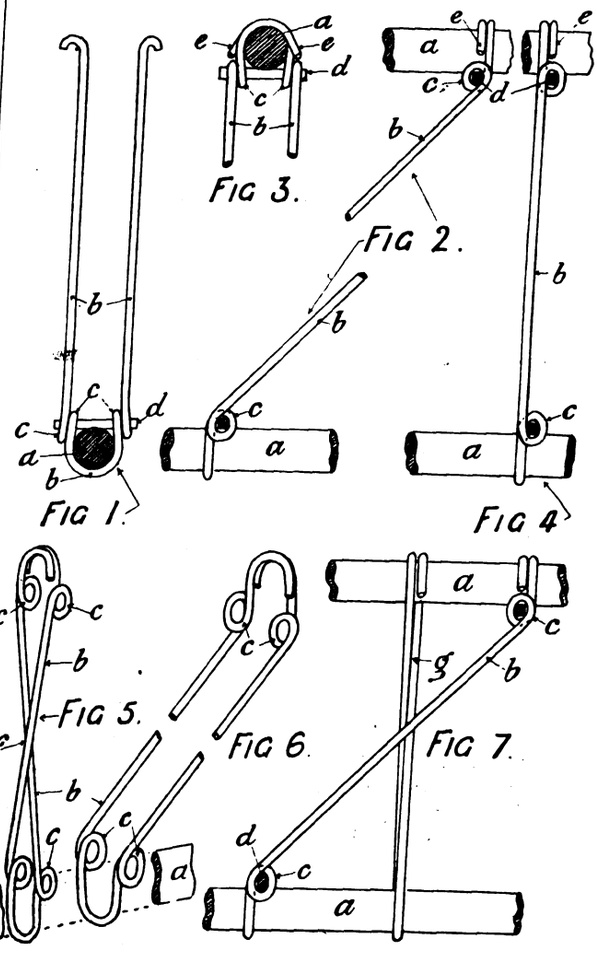
Mitchelstown.—Proposed labourers' cottages (£700).

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 28207. December 8, 1913. Reinforcement for Reinforced Concrete. A. J. Luke, "The Gables," Drayton, Cosham, Hants.—This invention relates to means of reinforcing concrete beams, lintels, floor-slabs, braces, and cantilevers, or parts of reinforced concrete structures. It refers primarily to improved forms of stirrups, links, or bonds, which can be attached to main reinforcements at any desired angle; as, for instance, the subsidiary reinforcement against diagonal stress which is used, in conjunction with main reinforcement against bending stress, in a beam or the like. These improved stirrups or bonds comprise a rod, or bar, formed or shaped with an open loop passing under or over a main reinforcement member, and thence up or down the sides of the latter, two complete loops or turns (one on each side of the main reinforcement) being formed to take a pin or wedge, the rod or bar being then continued at the desired angle for the length required, and the pin or wedge holding the main reinforcement in the open loop first formed, thus attaching the subsidiary to the main reinforcement in the



desired position. In the drawings the parts lettered *a*, *a* represent main reinforcements; the parts lettered *b*, *b* the improved stirrups or bonds; *c*, *c* are the complete turns or loops in *b*, formed to take the pins or wedges *d*, *d*. Fig. 1 shows a stirrup or bond having one end shaped or formed for attachment to a main reinforcement member. In this form of stirrup the ends of the bar or rod of which it is formed may be turned in any direction to afford a bond with, or anchorage in, the concrete. Fig. 2 is the side view of a stirrup or bond, inclined at an angle to resist diagonal stress in a beam or the like, and having attachments as described at both ends. In this figure the ends *e* of the rod or bar, of which the link stirrup or bond is formed, are lapped. Fig. 3 is another view showing the formation of one end of a stirrup or bond, the ends of the rod or bar of which it is formed being lapped. Fig. 4 is the side view

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of a similar stirrup or bond for use at an angle of 90 degrees, with a main reinforcement, as in a column, pile, or the like not subjected to diagonal stress. Fig. 5 is a perspective view of a stirrup or bond for use at an angle of 90 degrees with a main reinforcement, but having a twist in it at *f*, to enable it to pass between the sides of an inclined stirrup, as ordinarily formed. Inclined, as well as 90 degrees, links, stirrups, or bonds may be formed with a similar twist to enable them to pass other links **not** so twisted. Fig. 6 is a perspective view of an inclined stirrup or bond, the ends of the rod or bar of which it is formed being lapped. Fig. 7 is the side view of another improved inclined stirrup or bond. July 29, 1914.

PATENT SPECIFICATIONS PUBLISHED AUGUST 27, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 17,854. August 5, 1913.—P. C. Pace, Loxwood, Billingshurst, Sussex. Manufacture of air-gas.

17,873. August 5, 1913.—Dated under International Convention March 4, 1913. L. P. Basset, 43 bis Rue des Chesneaux, Montmorency (Seine et Oise), France. Process and apparatus for the manufacture of cement or hydraulic-lime with the simultaneous production of sulphurous anhydride or of sulphur.

18,030. August 7, 1913.—C. E. Lefeaux, 60 Becmead Avenue, Streatham, S.W. Door stops and the like.

18,135. August 9, 1913.—Wm. Marshall, Crown Iron Works, Beaumont Street, Kingston-upon Hull. Machine or apparatus for moulding or forming blocks, cakes, or other shaped pieces out of plastic or like materials, substances or compositions.

18,889. August 20, 1913.—J. A. Hart, Springfield, Shearbank Road, Blackburn. Heating and humidifying apparatus.

20,473. March 10, 1914.—H. E. Needham, c/o The Brazil Railway Co., Rio de Janeiro, Brazil. Apparatus employed in the manufacture of tiles and the like.

21,266. September 20, 1913.—A. F. Dutton, 15 Western Grove, Heaton Chapel, near Manchester. Fuel savers for domestic fireplaces.

22,812. October 9, 1913.—Dated under International Convention October 17, 1912. Edmond Coignet, 20 Rue de Londres, Paris. Reinforced cement structures more particularly such as comprise parts intended to be assembled under the water.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Re Enlistment.

SIR,—For the convenience of all members of the architectural and kindred professions who wish to respond at once to Lord Kitchener's appeal it has been arranged that all men enlisting at Whitehall in the various branches of His Majesty's Forces through the Architectural Association will be kept together and sent to whichever regiment they may choose provided that such regiment is not recruited to its full strength.

Two batches of our members have already been accepted for the Royal Engineers, where their technical training should stand them in good stead, but those who prefer to join the cavalry, artillery, or infantry can do so, and it remains for the men to say to which branch of the service they will go.

As I am arranging to send up batches from time to time will those wishing to enlist communicate with me as soon as possible?

ALAN POTTER,
Hon. Sec. Architectural Association War Service Bureau.
18 Tufton Street, S.W.

The War on German Trade.

SIR,—I have been very interested in the correspondence appearing in your Journal recently. There is one concern trading in London as the London Asphalte Company, Ltd., and which from its name might be supposed to be owned and worked by Britishers. From the entries made at Somerset House under date of March 24, 1914, I gather that the following are the names of the directors:—

Carl Heintz, Cologne,
Leo J. Tutt, Finsbury Place House,
E. Van der Wettern, Cologne,
A. Ruthermeyer, Wiesbaden,
G. Utz, Wiesbaden,
E. Ruthermeyer, Dusseldorf,

and the shares held by:—

Heintz	1,250	Van der Wettern ..	1,250
Dalzell	1	A. Ruthermeyer ..	1,250
Tutt	1,251	Utz..	1,250
Holford	1	Van der Wettern ..	100
Tutt	1	Brockhues	36
Wiedeman	1,151		

These people carry a fair amount of work for local bodies and public authorities; thus the ratepayers' money is being used to make money for Germans under a purely British title.

I think this is a matter that wants bringing before the public, and that most ratepayers would be strongly adverse to their money being spent in this way, although the authorities with whom the contracts are made may be absolutely ignorant of the facts I have here mentioned.

I enclose my card and am, dear Sir,

ONE OF THE RATEPAYERS.

London, W.C.: August 27, 1914.

P.S.—I also know another firm in the same way of business. In this case out of a capital of £10,000 in £1 shares only about one-fourth are held by British residents.

SIR,—We are pleased that many of your advertisers are doing their best to educate the public to the use of a British-made article. Your readers will have seen in your columns during the last few weeks that emphasis has been placed by advertisers upon the use of British instead of German made goods.

We notice, too, the restraint with which many advertisers have worded their announcements. They have not referred to the word "German" or "Germany" probably through sensitiveness, but when the fact is considered that every shillingsworth of British-made goods purchased means support for British supremacy, we think there should be no diffidence in withholding the fact.

How many readers who have used German iron, German glass, German dies, lamps, asphalte, and cement waterproofing liquids and materials realise that when they buy these there is some profit made on the material, and that profit goes to Germany? A proportion of that profit is then paid in taxes to support the German Army and Navy, which is now fighting against us. Before the war we did not say one word against the use of German-made goods, when they were as good as English, and the price was lower, as in the struggle for existence every man must buy in the cheapest market, although to-day, even for the sake of cheapness, we must not buy German-made goods if we wish to bring our antagonists to subjection.

We have certainly known of thoughtless architects specifying German-made goods. They have had no knowledge as to whether they have come from Germany, and they have not known that the goods have been German. It has simply been by the persuasion of an English agent appointed by a German firm, or an English traveller appointed by a German firm, that the architect has used their product.

We know of British materials which are much better, by all practical and chemical tests, than German products, and yet we know of architects who have thoughtlessly specified the German product.

In some cases the Germans have formed a branch in this country, and to hide their nationality or to distinguish it from the German company they have given it the title British. No architect should be led away by the word "British," because it is a well-known fact that when a foreign company establishes a sub-company in this country it is customary to prefix the word "British" to the name of the parent-company to form the title of the sub-company.

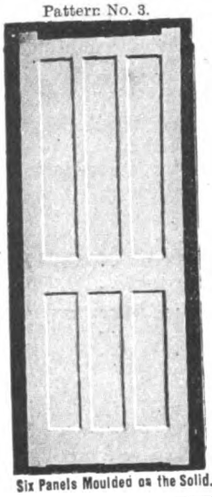
In conclusion we earnestly suggest to all architects the strong advisability of inquiring where the product is made, and to satisfy themselves that the quality is as good as a British-made article.—Yours, &c.,

MANUFACTURER.

Norfolk: August 31, 1914.

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THE ARCHITECT

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THE SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS.

THE annual report of the Society for the Protection of Ancient Buildings commences with a lament of its serious financial position. It is estimated that at the end of the present year there will be a deficit of nearly £100. Turning to the accounts we find that the solvency of the General Fund is only achieved by a loan of £25 from the Building Fund. Obviously this is a financial transaction that ought not to be allowed in a Society holding in a fiduciary position money given for a specific purpose. The donations to the Building Fund amounted during the past year to £37 1*s*., and the donors might rightly feel aggrieved that their earmarked contributions for helping the repair of ancient buildings should be devoted to other purposes. Borrowing from the Building Fund for the general expenditure is not only wrong in principle but foolish in practice, for it can hardly have any other effect than that of checking the flow of donations to the specific purpose of the Building Fund, which, as it is, is low enough in all conscience, and justifies the opinion held by many of its detractors that the Society to-day exists not to assist the repair of ancient buildings but to interfere with other people's efforts.

An examination of the figures of the General Fund and comparison with those of the previous year reveals the cause of the present lamentable financial position of the Society. Put shortly, it is mismanagement leading to the inevitable end that follows an increasing expenditure with a diminishing income—bankruptcy. The present report states the view of the Committee that "a special effort must be made" to meet the estimated deficit for this year of nearly £100. The Committee's view is a wrong one. For the year 1912 their expenditure exceeded their income by £7 5*s*. 3*d*., and this was due to payments which should have been made in 1911 to the amount of £36 15*s*. 3*d*. For the year 1913 the expenditure exceeded the income by £19 16*s*. 6*d*., and at the end of 1914 "there will be a deficit of nearly £100," which means that for this year the expenditure will exceed the income by £80. No amount of "special effort" will save from ignominious collapse a Society thus mismanaged. The Society has done good work in the past, and though some of its present-day methods may legitimately be open to adverse criticism—hence possibly its diminishing income—we should be sorry to see it extinguished.

The "special effort" that is required from the Committee is to revise its management, to cut its coat according to its cloth, to keep expenditure within the limits of income. Examining in detail the figures of payments during the past two years, we find that "printing" has increased from £32 4*s*. to £52 14*s*. 8*d*., "office expenses, including Secretary's travelling expenses," from £37 15*s*. 9*d*. to £48 2*s*. 3*d*., "Secretary's salary and clerk" from £211 to £218 8*s*. 4*d*. There is a reduction of "members' travelling expenses," the amount of which cannot be gathered from the printed accounts, as repayments are mixed up with "sale of reports, &c." Wherein lies the increase of expenditure this year which is to land the Society in "a deficit of nearly £100" we cannot, of course, say, but it is clear that the Committee has embarked on a career of reckless extravagance unwarranted by their income.

We regret also to note that not only in their financial affairs but in the more direct activities for which the Society presumably exists there appears also to be very regrettable mismanagement. Restoration work at Chester Cathedral is a case in point. Here the Committee "has learned that restoration of the type against which it strongly protests has been done at this Cathedral. It may be desirable for the benefit of readers who are not members to point out that the Society does not object to repair, and that this from the first photograph is apparently necessary. It is to wholesale renewal of mediæval work, both carved, moulded, or plain, that it so strongly objects. Such work would involve the destruction of the whole of the original facing, and the proposal shows a complete disregard of the increasing scarcity of genuine ancient buildings." Photographs are reproduced in the report illustrating "Chester Cathedral old porch before restoration. The repair could have been effected by filling up the decayed joints, &c.," and by way of comparison, "Chester Cathedral old porch after restoration amounting to complete renewal."

Let us examine the gravamen of the Committee in the light of the photographs. They object "to wholesale renewal of mediæval work" on the ground that "such work would involve the destruction of the whole of the original facing."

It is clear from the photograph, "before restoration," that the whole of the original facing had already vanished by decay of the stonework. It is therefore disingenuous to suggest that renewal would involve its destruction. The decayed stonework would continue to decay all the more rapidly because the original face had gone. There were only three alternatives for the custodians of the Cathedral: first, to leave things alone and to allow decay to go on until the building fell down; second, to cover up the decaying stone with the Society's speciality of tiles and mortar; third, to renew the decayed and decaying stone with more durable masonry. Is it not perfectly childish to suggest that either of the first two alternatives is desirable, or that decayed work must not be repaired except in the method approved by the Society, which would obliterate the original facing, if any remained, and merely perpetuate the historical fact that the building had decayed beyond preservation? The "restoration" effected does this, as the photograph shows. It does not profess to be or appear to be, to the least instructed layman, original mediæval work. It is certainly more sightly than a skin facing of tiles and mortar.

Two notable old buildings in London show conclusively the ineptitude of the present Committee. Nos. 55 and 56 Great Queen Street, Kingsway, were bought several years ago by Grand Lodge for the express purpose of enlarging Freemasons' Hall, and the time has now come when it is intended to pull them down. We much regret their destruction, as we agree with the Committee in their view that "these houses are exceptionally fine examples of the street architecture of the middle of the

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seventeenth century." At the meeting of Grand Lodge last week an effort was made by Mr. Henry Lovegrove, A.R.I.B.A., and Mr. Francis R. Taylor, Licentiate R.I.B.A., to save these old houses; but the ground was cut from under their feet by a letter from the district surveyor pointing out that these houses are dangerous structures, and if not pulled down voluntarily must be condemned by him under the provisions of the London Building Act. The Society has had years in which to arouse public interest and raise public subscriptions to protect these old houses. The Committee now, at the last moment, write letters to the Press urging their preservation without, we must assume, assuring themselves that such preservation is possible. Nay more, the Grand Lodge of Freemasons is quite ready to give the old materials of these houses to a recognised body who will take them and preserve them elsewhere.

Now for the other example, No. 75 Dean Street, Soho. This house has been prominently before the public, and a preservation order has been issued by the Government under the Ancient Monuments Protection Act. Parliament has decided not to proceed with the Bill for the acquisition of the house. What attitude does the Committee of the Society for the Preservation of Ancient Buildings adopt? "Members of the Committee visited the house and reported that beyond the fact that it contained interesting wall paintings and some good fireplaces and panelling the house had no exceptional interest. The Committee therefore decided to take no action, though it would regret the destruction of the house." Here we have an exceptionally interesting house, with unique paintings, ascribed, with some show of reason, to eminent painters, for which it should be possible to finance the preservation with only a small share of public support, and the Committee have "decided to take no action." It does, indeed, appear that the policy of the present Committee is not to protect ancient buildings, but to prevent their repair by their owners except under its own direction or "by an architect in consultation with it."

NOTES AND COMMENTS.

WE sympathise with the following protest which has been signed in Dublin, but we must express an opinion of its utter futility. The only protest that the German leaders will understand and respect is their expulsion from Belgium and France, and the action of the Volunteers from Ireland who are going to the front will be more effectual than scores of documents from members of governing bodies of Universities. The protest reads:—

We, the undersigned members of governing bodies of Universities and Colleges, Academies and learned Societies, Libraries and Museums, hereby record our protest against the destruction of Louvain by the German Army as not only a violence against defenceless non-combatants, unparalleled in European history since the Thirty Years' War, but as an injury to learning, science, and education, to history and art, to religion and citizenship, which is wholly without precedent, and which no military exigencies or experiences can extenuate, much less justify. We regard this act as of the gravest injury to the whole fabric and life of European and general civilisation, since it destroys guarantees hitherto respected by combatants.

We therefore appeal to the honoured traditions, the old and illustrious culture of the German peoples, and in particular to their great centres and institutions of learning, with which we have had such long, intimate, and hitherto unbroken relations, to apply the weight of their moral and intellectual influence towards preventing the repetition, and threatened continuance, of such excess of military powers.

We request our respective Governments to transmit this protest through their available channels to the German Imperial Government and to The Hague Court.

Finally, we desire to express to the Allied Governments and their commanders (of whom one is already approaching the illustrious city of Königsberg, the University of Immanuel Kant) the earnest hope that reprisals of any comparable nature be expressly and clearly prohibited.

An article in the *Westminster Gazette* says:—

Next in importance to foodstuffs is timber. The public stocks of hardwood in London, comprising mahogany and other furniture woods, are unusually heavy, being 90,000 tons, against 66,000 last year, and these are at this moment being supplemented by 5,000 tons of mahogany and 6,200 tons of oak diverted from Germany. Large stocks of soft wood (chiefly deals and boards) were in hand when the war commenced, and even to-day, after deliveries, the stocks at the Surrey Commercial Docks are heavy. The war has stopped the supplies from the Baltic at the height of the season, and so far we have only landed about half the normal quantity for the whole season. But shippers and shipowners are rising to the occasion, and on Friday last four vessels were fixed to bring timber cargoes from ports in Sweden and Norway to London. Archangel is available for a large proportion of the Russian supplies, which cannot now come through the Baltic; and I learn that officials of the British and Russian Governments are engaged in completing arrangements for large shipments by this route. There will be great demands for timber for buildings of all sorts during the next twelve months, and it is hoped therefore that the Archangel consignments may come often and come quickly, as the port is closed to navigation early in November. We have Canada to fall back on in case of need, but the St. Lawrence closes at the same time as Archangel. In the face of these facts, and also that only last week a timber ship actually from the Baltic arrived in England, what justification can there be for a rise of 25 per cent. in the price of timber?

Dublin has set a good example in the handling of the difficulty of arranging building contracts during the war crisis, and the apprehension it has engendered. As a result of the conferences between representatives of the Dublin Building Trades Employers' Association and the Local Government Boards of England and Ireland, the Board of Works, and the Royal Institute of the Architects of Ireland, all tenders during the war are to be governed by the following conditions:—

"This tender is submitted on the express condition (which condition shall be embodied in any form of contract subsequently drawn up) that if the prices or cost of any material necessary for, or essential to, any part of this work advance or be reduced by more than 5 per cent. over or under the rates at this date current, the schedule of prices for such shall be correspondingly increased or reduced, and the amount of the contract amended accordingly."

On this basis the Local Government Board have agreed to sanction the tenders, amounting to £60,000, for the erection of artisans' dwellings for the Pembroke Urban Council, and the work is to be put in hands with the least possible delay. The Architects' Association have also agreed that the same conditions shall be accepted for all private contracts. A special Advisory Committee, representing all interests concerned, is to be established to fix a standard schedule of prices, either daily or weekly, as circumstances may determine.

Up to the present there has been no abnormal increase in any items of raw materials for building or allied trades. There was a danger of a corner in lead, but the Government have intervened, and threatened to take charge of all lead works, with the result that there has been a slump of about £2 10*s.* a ton in the price of this commodity. Steel joists show an increase of about 7½ per cent. to 10 per cent., and Portland cement 2½ per cent. to 5 per cent. on pre-war prices.

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In the United States sawdust was for a long time regarded as waste. It was allowed to float down the rivers, or to pile up in unsightly mounds. At best it found a field of usefulness in ice houses and stables. The recent success of a Baltimore chemist in perfecting a process by which illuminating gas can be made cheaply from sawdust is, however, only one reason why science is beginning to hold sawdust in more respect. In Austria they mix tar with it, and make fuel briquettes of it. One Austrian factory produces seven million briquettes a year. In Germany they mix rye flour with it, and out of the combination bake a kind of bread that human beings as well as horses eat. One German bakery turns out twenty thousand loaves a day. In France they extract dyes from it.

The University of Sheffield Department of Architecture, of which Mr. W. S. Purchon, M.A., A.R.I.B.A., is the lecturer, is approved and recognised by the Royal Institute of British Architects, which grants exemption from its own intermediate examination to students who obtain the degrees, diplomas, or first-class certificates awarded by the University. The department provides: (1st) A course leading to the Degree of Bachelor of Arts with honours in architecture. This consists of a three years' day course and two years' part time course. (2nd) A certificate course consisting of a two years' day course and a third year part time course. (3rd) A diploma course. This is a two years' part time course following the certificate course. (4th) Special evening courses. During the part time courses the students spend a large part of their time in architects' offices as articled pupils, the courses being intended to supplement, rather than to take the place of office training. Students who are unable to take a complete course may, by arrangement, attend any part or parts of the day or evening courses approved by the lecturer. Students who desire to attend the day or evening lectures, but find the stated time inconvenient, are advised to inform the lecturer. If further particulars of the work of the department are required, they will be given.

The University of Sheffield also grants a Works Pupils' Certificate (Building Section) to those who follow a course arranged by the University in consultation with the Sheffield Master Builders' Association to meet the requirements of students who are working with the object of becoming master builders, or of occupying other important positions in building businesses. This certificate is awarded to students who complete a three years' course and pass the necessary examinations.

THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

BOTH in quantity and quality the contributions for last month are very much below the usual average. We cannot say that either of our two competitors has given us a satisfactory water-colour drawing.

"Improver's" effort is out of drawing, and his water-colour crude, though giving promise of better things later on.

Mr. J. E. Fearn has mistakenly sent a coloured geometrical elevation instead of a water-colour drawing.

Faute de mieux we divide our prize money, two guineas, equally between our two contributors.

WAR ITEMS.

THE Commercial Intelligence Branch of the Board of Trade at 73 Basinghall Street, E.C., are desirous of hearing from firms who are prepared to send them samples or catalogues of German and Austrian or Hungarian goods which have competed with British products at home or abroad. The Board of Trade propose to hold an exhibition of samples of this nature, and would welcome the co-operation of British manufacturers and traders.

The Joint Hospital Board and a committee of Abingdon School Governors, who are placing building work out on contract, are making it a condition that, except under special circumstances, no single men eligible for military service shall be employed.

The difficulty of dealing with those businesses which have been established in this country by German capitalists is illustrated by correspondence in the *Morning Post* relative to one of the biggest electrical firms in this country, that of Siemens & Halske, of Berlin. They trade here as Siemens Brothers & Co., Ltd., under our Company Laws, and they have a sub-company known as the Siemens Dynamo Works, Ltd., most of the shares in which are held by or on behalf of Siemens Brothers & Co.

The capital of Siemens Brothers & Co., Ltd., is in 120,000 shares of £5 each. 70,465 are held by Arnold von Siemens and Georg von Siemens, all of Berlin; 19,783 by Alexander von Siemens, and 19,210 by G. von Chauvin. A few other shares are held in German names, and, roughly, 110,000 out of the 120,000 shares are held by the Siemens family and Herr von Chauvin. Thus practically the whole of the profits from Government contracts and the control of the business is in the hands of aliens.

On the other hand, at the present time, something between 15 and 20 per cent. of the population of Stafford are directly or indirectly dependent on wages earned at Messrs. Siemens' works here. Out of the total number of their employees there are now less than twenty Germans, of whom most have been for many years in the employment of the firm in this country, while some of them are absolutely essential to the continuance of work in the shops where they are employed. The works at the present time are entirely under English management, and, therefore, the question of employment of Germans now scarcely enters into the matter at all.

English labour is living on the work provided by German capital. It also furnishes profits and assistance for an alien enemy. Our Government must solve the difficulty of cutting off the alien enemy's profits without reducing English labour to beggary.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals the following information has been received from his Majesty's Consul at Alexandria:—

If the cotton crop is successfully financed the conditions and prospects of trade will be favourable. The United Kingdom should secure a large proportion of the German Empire's very valuable trade with Egypt in all manufactures of good quality, such as machinery, especially artesian well apparatus, canvas hose, machine tools, gauges, wrought iron pipes and tubes, files, bolts, &c., and in textiles imitating popular patterns. Successful competition is improbable in inferior "cheap and nasty" goods, such as crockery, pewter, ironmongery, hosiery, and haberdashery. Our serious difficulty is that long credit (six or twelve months) is indispensable as fellaheen pay only by instalments.

H.M. Consul-General in Rio de Janeiro reports:—"According to telegrams from New York, United States of America firms are preparing to send a veritable army of commercial travellers to South America, especially to Brazil, Argentina, and Chile, with a view to capture of German trade in those markets."

H.M. Commercial Attache in Japan has cabled as follows:—

"Business is being very seriously hampered by international difficulties which have arisen. It is suggested that United Kingdom firms transacting business with Japan should consult exchange bankers with a view to having their shipments to the Far Eastern

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FLATS AND BUSINESS PREMISES AT TORQUAY.

markets financed. The attitude of the Japanese banks is exceedingly cautious.

"It is estimated that at present the stocks of dyes in Japan are sufficient for six months' requirements. Large Australian contracts for wool and lead are being held up owing to difficulties of finance.

"As regards exports, shipments of silk continue to show a falling off, while copper shipments are at a standstill. Exports to China of cotton yarn for the manufacture of gun cotton have fallen off 50 per cent. It is officially stated that the rice crop is expected to exceed 57,000,000 koku (about 282,885,000 bushels)."

The British Ambassador at Rome has cabled as follows:—

"I am informed that the present moment would be a favourable one for a competent Italian commercial traveller or agent to go to Milan and obtain orders for goods hitherto supplied by Germany. Amongst such goods for which there would be a demand are carbons for arc lamps, magnesium, silica, bricks, and special types of steel."

His Majesty's Minister at Christiania has sent the following cablegram:—

"Supplies of medical drugs, which are usually drawn from Germany, are reported to be very low in Norway at present. Representatives of the drug industry who were sent to America have reported that drugs are very expensive there, and it is considered that there is a good opening for British products of this nature in Norway."

The members of the staff and works of the British Thomson-Houston Co., Ltd., electrical engineers and manufacturers, Rugby, with branch works at Willesden and Coventry, are answering the call of their country in a whole-hearted manner. So keen is the patriotism of their employees that up to the present 852 have answered the call.

The above number represents over 30 per cent. of the eligible adult employees, excluding those above enlisting age, boys under age, and females on the staff and in the works.

It is the company's intention to pay half wages to those of its employees who have enlisted. The company further promises wherever possible to reinstate returning employees in their former position on the cessation of hostilities.

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In those positions where fresh help has to be employed to keep the works going, no male candidates will be considered who are not over thirty-five years of age, or who cannot give proof by showing H.M.S. certificate that they are medically unfit to enlist.

Reserve and Territorial officers on the staff of the company have rejoined their respective units in the Navy, Lancashire Fusiliers, and the King's Horse, and it is noteworthy that one of the officers not being able to obtain his former commission has volunteered as a gunner in a howitzer battery.

Lord Kitchener has sent through Major-General Rawlinson a letter to the managing director, expressing his appreciation of the company's attitude.

FLATS AND BUSINESS PREMISES AT TORQUAY.

THIS scheme has been prepared by Mr. F. G. Moore, M.A., B.Sc., architect, to meet a local need. At the moment it is almost impossible to get a well-situated flat in this well-known health resort.

SACKVILLE BUILDINGS, TORQUAY.

THESE important works are commenced near the well-known Babbacombe Downs at Torquay, the contractors being Messrs. Samuel Blatchford & Sons of that town.

A considerable amount of old property has been demolished, and a very important road-widening arranged with the Torquay Corporation. The architect is Mr. F. G. Moore, M.A., B.Sc.

ILLUSTRATIONS.

OR-SAN-MICHELE, FLORENCE, AND ITS TABERNACLES.

A FULL description of the remarkable building, Or-San-Michele, Florence, and the tabernacles with their sculptured figures which adorn it, will be found in the article by Professor Alfredo Melani.

FIRST ATELIER OF ARCHITECTURE.

SEVERAL members of the Atelier have enlisted, but those unable to do so are carrying on the work as usual, and the first esquisse of the autumn session was held last Saturday. An exhibition of work done during the summer term, and of holiday sketches and figure drawings, will be held on October 7, when the Atelier medal awarded for work done during the past year will be presented to Mr. L. H. Bucknell. The sous patron, Mr. Chaures, being now with the armies of France, two of the senior working members, Mr. Adrian Berrington and Mr. L. H. Bucknell, have undertaken to help the members and do all they can to compensate for Mr. Chaures' temporary absence. The patron and the members of the jury will also visit more often as appears desirable. A revised subscription for working members has been adopted which should prove more economical and convenient, and lead to an increase of membership.

A WHITE Paper shows that the total receipts in respect of the land registry for the year ended March 31 last were £56,995 3*s.* 10*d.*, as against £56,697 16*s.* 2*d.* in the previous year, whilst the expenditure amounted to £51,872 10*s.* 1*d.*, as against £51,558 10*s.* last year. Of the surplus of receipts (£56,697 16*s.* 2*d.*) over expenditure (£51,558 10*s.*) in the previous year, viz., £5,139 5*s.* 10*d.*, £5,130 7*s.* was transferred to the Land Registry Insurance Fund.

THE City Council of Manchester gave approval last week to the several departmental plans for providing work during the period of distress. The proposal to adapt Bank Hall, Heaton Mersey, as an open-air residential school, at an estimated cost of £3,834, was first approved. Then they sanctioned the proposal to go forward with main drainage works at a cost of £15,000. Approval was expressed also to a housing scheme on the Temple estate, Cheetham, costing over £30,000. A proposal to spend £16,500 on extending the lake in Heaton Park was postponed. The Highways Committee's proposal to spend over £14,000 in sewering, levelling and paving work was sanctioned. The scheme for making a broad road from Longsight to the Cheshire boundaries was also approved.

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FLORENCE: THE TABERNACLES OF OR-SAN-MICHELE AND THE ART GUILDS.

By PROFESSOR ALFREDO MELANI.

The Athens of Italy.

FLORENCE, the Athens of Italy, possesses monuments which, whilst showing the taste of the Florentine people, one of the most artistic peoples of Europe, explain at the same time its activity and wealth.

The ancient grandeur of Florence had an economic, industrial, and commercial basis; and from this basis sprang up the artistic genius of this people that formerly tolerated neither torpor nor inactivity. During the Middle Ages, in the thirteenth, fourteenth, and fifteenth centuries, perhaps no other Italian town had a history more agitated by civil strife and party hatred; but later conditions changed, leading to commercial prosperity and to the greatest artistic Florentine creations, of which Or-San-Michele is a striking example. This monument, which stands in one of the most frequented streets of the town, the Calzaioli Street, is a democratic monument and epitomises the power of the Florentine people.

We are now at the end of the fifteenth and the beginning of the following century, the period at which the Arts or Trade Guilds had the upper hand in the government of the city, their wealth being supplicated in all local initiative.

Such is the case with Or-San-Michele, particularly with the tabernacles, of which we wish to speak to-day, and which form the most superb decoration of this monument. Thus all Florentine arts and the most celebrated artists had their hand in these monuments.

The Florentine Arts or Trade Guilds did not limit themselves, however, to arts proper. They extended, on the contrary, to every working trade, forming economic associations in which were to be found side by side with the artist, the apothecary and the doctor, as we shall see later.

The Lodge and the Church.

With reference to Or-San-Michele, the first lodge, simple and modest, used for a market, was of very ancient date. This old lodge had been destroyed by fire and was replaced in 1336 by a new one, more remarkable than the other, whose unknown architect may have been Francesco Talenti, one of the greatest Italian mediæval architects. In 1339 a feast to celebrate the expulsion of the Duke of Athens was held, and beyond the lodge of Or-San-Michele a chapel was built providing an enclosure for the lodge which was thought proper for the chapel dedicated to St. Anne, "propitia et fautrix libertatis civitatis Florentiae." To this saint, who became popular, was added another, painted on one of the pillars of the lodge; and this double sanctuary, or this sanctuary which inspired an enthusiastic cult amongst the Florentine people, received its present form, much more monumental than the ancient market lodge. The closed arcades were gorgeously decorated after 1378 by the artist-sculptor Simone Talenti, the son and pupil of Francesco, and also by Antonio di Francesco, Giovannello Buonafede and Matteo di Cione; and it was just after the arcades received the exquisite decoration of which we are speaking that the Guilds were invited to help with the beautifying of Or-San-Michele. The invitation could not have been better received, and the tabernacles, not including the pillars, testify to the assistance rendered by the arts to this several-centuries-old monument, to which even the painting gave a splendour, thanks to Jacopo da Casentino (first half of the fourteenth century), who decorated the interior with frescoes, in accordance with the taste of the period. And everyone knows the Orcagna tabernacle, a masterpiece which suffices for the glory of this artist, to whom modern criticism denies the celebrated lodge of the seigniory, which tradition had assigned to him. This tabernacle-altar is quite the most precious treasure to be found in Or-San-Michele, a creation of great beauty, the glorification of architecture and decorative sculpture, in a Gothic style, entirely Italian and Florentine, slightly overloaded (1359).

The Art Guilds.

The Guilds were to decorate the outside with tabernacles and marble or bronze statues, and the major and minor Guilds undertook this with a zeal which caused them to enrich the artistic patrimony of Florence. It was agreed that the Guilds should have their respective armorial bearings placed above the tabernacles, and each one was allowed to decorate its tabernacle with bas-reliefs relating to the art practised.

Thus, as I said just now, no monument of Florence expresses more completely than Or-San-Michele the democratic vitality of the Florentine Government, strictly democratic after the end of the thirteenth century. At this time the executive power was in the hands of the captain of the people and in the "priori," chosen citizens elected by the Art Guilds, the source of all public representation. Consequently all the citizens had to have their names entered if they aspired to Government service; even the richest and most intelligent had to bow down before the people and enter into the anti-aristocratic spirit of the city. Celebrated men like Dino Compagni had given their names to the Art Guilds, and we know that Dante himself was enrolled in the Apothecaries Guild, a major Guild which included doctors and painters. A fact which further demonstrates the artistic sense of the poet since, as an artist, he approached painters rather than silk and fur merchants. This did not prevent an Italian writer from giving the title "Dante, apothecary," to an article connected with our subject. This, indeed, was the reason of the poet's being allowed to sit in the Public Councils, he being sensible to a certain vanity with which Boccaccio reproached him, and from which sometimes even superior men cannot refrain.

As for our Art Guilds, they had stately, sometimes princely, residences, rich in furniture, carpets, paintings. The Guild of Old Clothes Dealers, whose residence, no longer to be seen, was built in 1387 and pulled down during the destruction of the Old Market, was decorated with magnificent pictures and furniture, and the chiefs declared they had spent an "almost infinite" sum in the building of this residence. In the same way the richest art, that of wool, had a superb residence opposite the Or-San-Michele, whose tower still rises formidably above the Calzaioli Street. It was not thought that the monumental austerity of the building did not correspond with the decoration. A book of memoirs, dating from 1458 to 1460, forms a sort of inventory of the Corporation, in which is mentioned the artistic furnishing of the residence—carved and inlaid furniture, wainscotting and the bronze work of Ghiberti. The Art Guilds of Florence are, indeed, what the Scholæ at Venice used to be, above all from the monumental point of view, for the authority of the Venetian Scholæ is written on many monuments of the town made celebrated by Carpaccio, Giambellino, and Titian.

The major Guilds of Wool-staplers, of Merchants, and of Silk-mercers thus represented the inexhaustible resources of public life in Florence; and more prominent than the rest, each received the charge of a monument—the Silk-mercers' Guild, Or-San-Michele; the Wool-staplers' Guild, the Cathedral; the Merchants' Guild, the church of St. John.

At the moment of the construction of Or-San-Michele the Guilds amounted to twenty-one, of which seven were major and fourteen minor, each one having a patron saint. However, the Florentine Guilds, whose origin dates back to 1266, after the battle of Campaldino, consisted of twelve primary, nine secondary, not counting several additional complementary Guilds ("membres"), as the *Cronica* of Villani informs us. And Campaldino, in the valley of the Upper Arno, where the Ghibelins of Arezzo were conquered by the Guelfs of Florence on June 11, 1289, calls to mind a memorable conflagration, at which Dante was present, according to Leonardo Bruni, who probably saw a letter from the poet on this subject.

Curiously enough, in the Florentine Guilds the goldsmiths belonged to the Silk-mercers' Guild, a major Guild; painters were included in the Doctors' and Apothecaries' Guild, a major Guild; sculptors, less favoured, belonged to the Masons' and Carpenters' Guild, a minor Guild, in which architects also had to become enrolled.

The Tabernacles.

The object of our study, even more than with the social action of the Guilds, is concerned with the beauty and art of the tabernacles of Or-San-Michele, for in these tabernacles is written one of the most splendid pages of Florentine art.

And in these tabernacles we note that sobriety and elegance almost reach perfection. Those who are accustomed to the subtle and slender Gothic, the Gothic which evokes the goldsmiths' art, will at first feel a little strange before the tabernacles of Or-San-Michele. But as soon as

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their eyes discover the calm, the modesty, the equilibrium, which these compositions contain, their impression changes. Besides, this Gothic is Florentine and has its own original tendency and an entirely local accent. It might be said that this Gothic has its origin in Classicism, and, an early witness, presages the measure and nobility of the Renaissance, the so-called "First Renaissance," which had its origin in Florence and its baptism from the Florentine architect-sculptor Filippo Brunellesco. It is, in short, that of Florence and of our tabernacles that is the most Italian and spontaneous Gothic to be found in Italy, gracious and energetic, subtle and glorious, like church music. It would be superfluous to praise its details, the capitals, the ornamental foliage, the polychromatic marquetry, it being better worth our while to notice the character of the tabernacles, justified by their purpose and situation. Their emplacement does not vary, for each one of the compositions is attached to a pier, the pilaster of the ancient lodge, which fixes the dimensions and general disposition of the tabernacles, establishing certain concordances which cannot be abandoned. My readers will understand this if they bring their knowledge to bear upon the question. Thus it was impossible for height and breadth to differ greatly, and if we compare—coming back to Gothic—the style of Florence Cathedral with that of the tabernacles we notice, in the latter case, that intellectual bond which goes further than the artistic, and becomes the characteristic of a people. Thus we are not exaggerating when we say that the style of the tabernacles of Or-San-Michele belongs to the Florentine people even more than to the artists who designed the architecture. We find a sobriety of line, greater breadth than in French Gothic, and wherever the style of the tabernacles tends to become heavy it is, as it were, forced thereto by necessity. I should like to allude to the tabernacle of St. Mark, built by the Linen and Old Clothes Dealers' Guild. This saint belongs to Venice, and, gently influenced by this origin, the tabernacle has been decorated more than was necessary, endeavouring to speak the Venetian tongue at Florence. The St. Mark, an early (1411-13) but forceful work of Donatello, in marble, with flowing draperies and in action which implies no effort, would have shone more in a different tabernacle from that belonging to Donatello. This master, this great artist of Italian sculpture, never felt the influence of Gothic style, as was also the case with Lorenzo Ghiberti, the elder of Donatello, who always employed the Classic style, and who was the friend of Brunellesco and fellow-worker of Michelozzo. Following this style, Donatello was probably the author of the tabernacle to which Verrocchio gave one of the most striking bronzes of the First Renaissance, the group of Christ and Thomas. This group was first allotted to Donatello by the magistrates of the Mercanzia (commercial court), but Donatello was unable to execute it, and only carried out the architecture of the tabernacle. After the death of this master the group was modelled by Verrocchio, who worked at it for several years, finishing it in 1483. This tabernacle does not resemble the others; it is unique at Or-San-Michele in its classical taste, which is imbued with timidity, an example of the primitive Renaissance which opposes grace to force, contrary to the pride of Verrocchio, painter and statuary, the master of Leonardo and Lorenzo di Credi, the author of the Colleoni at Venice. Speaking of Verrocchio reminds me of the fact that you possess in the Victoria and Albert Museum the reproduction of the Forteguerri Monument erected in Pistoia Cathedral, which, though contested by recent writers, is in reality the work of Verrocchio. The execution of the monument was confided to the assistants of the Florentine master.

The difference between the architecture and the statuary is worthy of notice here, and we can even remark the calm of Donatello, the architect, which does not coincide with the animation of the painter.

We shall further notice the genius of Donatello in his St. George, a model whose essence is nobility. Executed by order of the Armourers' Guild in 1416, the statue, of marble, is one of the most beautiful examples of Italian sculpture. In his calm, sure courage St. George feels the strength of his youth, and expresses the entire capacity of his author's happy art. The original statue has been replaced by a copy, and the error has been committed of rendering into bronze that which was created in marble, repeating the mistake in the monument of David by Michel Angelo in the Viale dei Colli, disastrous *julienne*. The tabernacle, less recessed than the others, because the pier contains a staircase, making one fear serious damage to the statue, has been decorated with a canopy, so as to shelter the marble necessarily projected to the front by the line of the pier. However, as soon as the original statue was replaced by a reproduction, the tabernacle was changed—that is to say, the St. George had the place at Or-San-Michele which belonged to it, from which it had been removed. I may note a fact almost unedited before my publication of it in the "Manuale di Scultura Italiana," second edition, and which was suppressed in the third edition—i.e., the nose of St. George was broken by a stone thrown by a street urchin in 1858, and the new nose was made by Aristodemo Costoli. The St. George has for several years been in the National Museum, where it has not gained in spirit and appropriateness. The displacement of works of art is bound to be adverse; it betrays both truth and beauty, for an artist composes his work in accordance with material conditions, light, and situation. Italy is, however, swept by a deplorable current of unification and displacement. This is even the case with Michel Angelo, to the great detriment of public education.

The work of Donatello can still further be found in the tabernacles of Or-San-Michele; the statue of St. Eloy was assigned to him, although it might well be attributed to Nanni di Banco, from its serious attitude and the folds of the tunic, which, whilst evoking classical convention, are interesting even from an executive point of view.

The tabernacle feels the effects of the austerity proper to the statue.

Let us continue with Donatello's St. Peter, which is the brother, from an artistic point of view, of St. Mark, a statue which recalls the best work of the author of St. George. Do you know the prophet Jeremiah in the Campanile at Florence? Then you will surely be struck with the relationship between these two works of art. This same statue belongs to the master's youth, and he executed it for the Butchers' Guild, the associate of the Fishmongers' and Poulterers', who were certainly not over-satisfied with the statue, whose head possesses such force as would put to shame many contemporary sculptors. The tabernacle does not depart from established motifs save in the background. This is always changed in the tabernacles; it consists, as in the present case, of geometrical work, which is not favourable to statuary: the architect's preoccupation sometimes goes beyond the limits of reason here. The statues would have found more suitable setting against a plain background rather than against the coloured and gilded surfaces of our tabernacles; the effects of light and shade would have stood out more happily. And if you recollect the "cosmatesche" marquetries of which I have spoken in these columns you will be able to picture the backgrounds repeated at Or-San-Michele, an example of Gothic architecture in Florence, even in the tabernacle-altar of Orcagna and in the exterior of the cathedral.

The tabernacle consecrated to St. James is very charming. As a whole it has no originality, but the details are exquisite; above all, the charming bas-relief on the socle. It leads us to the early work of Ghiberti. For this reason also the statue has been attributed to this master, who was, in my opinion, replaced by Nanni di Banco. The coldness of this statue would be inexplicable if Ghiberti had touched it. Thus, the Furriers' Guild, which, together with the Curriers, paid for the pretty tabernacle, probably employed Nanni di Banco.

Recalling the names of these Guilds, of humble aspect, we artists see life in an atmosphere of happiness far removed from contemporary life. At present social competition makes us wonder whether the world were not exclusively created for economic ends, and our spirit revolts in the hope that the present spectacle is only a transitory incident.

We again come across the work of Nanni di Banco in the tabernacle to St. Philip, which he was commissioned to execute for the Tanners' Guild about 1408: the architecture is very similar to that of the preceding tabernacle, and I may mention the characteristic, well-draped bust of the statue.

We must not, however, forget the details; and I regret to have scarcely mentioned the spontaneity and freedom of taste of the ornament workers, who carried out the capitals, the foliage, the crockets, with perfect artistry, mingling naturalism with clear, living, clever convention. All the work, in short, at Or-San-Michele, if not perfect, is very nearly so; and, above all, in the ornamentation, love and patience only dream of success and joy.

Passing from one beauty to another we are still before

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the time of Lorenzo Ghiberti, who, with Donatello and Verrocchio, is the hero of the tabernacles. In 142[illegible] Ghiberti was commissioned by the Drapers' Guild, together with the upholsterers, weavers, carders, and dyers, to execute the statue of St. Stephen. The delicacy of this work leads us to the master's most gracious images at the so-called "Paradise" door; for here grace of th statue which almost becomes reticence is to be noted, and the ample draperies, the balance of the whole, delight us, forming a contrast to the severity of St. Matthew. This latter tabernacle, carried out by Ghiberti for the Money-changers' and Bankers' Guild in 1420, precedes the St. Stephen's tabernacle by eight years, and it is noteworthy from a double standpoint—its beauty and its spirit of transition. We have, indeed, a semi-Gothic tabernacle, or, to put it better, a Gothic tabernacle expressed in classical language. One could not wish for a better example to demonstrate the transition between two styles. The ornament, which, save for the foliage, does not strive to become Classic, is inspired by Renaissance; Corinthian columns, with foliated capitals, have replaced the Gothic clustered shafts, and beneath the pediment, which is still ogival, is a small cornice with timid mouldings. All this is worthy of mention, the more so as the tabernacle was designed by Ghiberti, the author of the statue. The master had already shown his taste for Gothic tradition in the first door of the Baptistery, but this is particularly interesting at Or-San-Michele from an architectural point of view.

A curious circumstance may be noted about Ghiberti the Florentine—i.e., his fidelity to his birthplace and to his fellow-citizens. Donatello might give works to Padua, Siena, and Naples; Michelozzo might go to Milan and Ragusa; Mino da Fiesole might make a long stay at Rome; Ghiberti, on the contrary, only worked for Florence save in one case—that of the two bronzes for the Baptistery of Siena.

Conclusion.

Or-San-Michele received still further tabernacles: among these, that of St. John the Evangelist, together with the statue (Silk Drapers' Guild, affiliated to the Goldsmiths), and that of St. Luke (Judges' and Notaries' Guild) would take us from the earliest years to beyond the first half of the sixteenth century. Indeed, the tabernacle of St. John the Evangelist, with the statue executed by Baccio da Montelupo, dates from 1515, and St. Luke's tabernacle, with the statue by Giambologna, the well-known French artist, who lived in Italy, dates from 1562.

This proves the persistent care of the Guilds of Crafts of artists and artisans for beauty, and confirms the civil power of this Florentine democracy, to which the Athens of Italy is partly indebted for her economic fortune and artistic splendour.

TOWN PLANNING AT THE BRITISH ASSOCIATION CONGRESS.

TOWN PLANNING IN RELATION TO THE COMMUNITY.

By WILLIAM R. DAVIDGE.

Modern Legislation.—The English "Town Planning" Act of 1909 has focussed public attention on the subject, but this Act was long preceded by the Italian, Swedish, and Prussian Town Planning Acts, all of which provide not only for town extensions and new streets being laid out on the lines prescribed by the municipal authority, but also give the authorities much greater powers of purchase or expropriation.

Buildings.—In most cases different parts of a town require special treatment, and in German town-planning practice it is customary to divide the town area into zones, each with special building regulations and restrictions as to height, number of storeys, and open space.

Factory Zones.—Even under the English Act factory zones or districts may be prescribed, to which may be banished all businesses likely to cause objection by reason of smoke or noise. Such districts must necessarily be in close touch with railway or water transit, and if possible on the leeward side of the town; with the growing use of electric power factories are becoming less objectionable, but it is still desirable to segregate them.

Land Values.—In practically all countries the constant increase in value of urban land has resulted in a corresponding increase in the height of buildings, which in turn has resulted in still further increase of value, the one reacting constantly on the other.

Limitation of Houses per Acre.—In England much is hoped from the limitation of houses per acre. The effect of such a limitation must be at least twofold: it tends first to spread the town and consequently the values over a larger area and by restricting the use to which land is put may to that extent decrease the value per acre of land which is already ripe for building. At the same time it will tend to give a corresponding increase of value to land farther from the town. Its effect on the already overbuilt city areas cannot fail to be beneficial, for by fixing a standard for suburban development, a high standard of amenity, and a low standard of price it will be financially impracticable to force up values in the built-up areas above a reasonable limit, and economically impossible to unduly increase the congestion of building. A reasonable return may be obtained from the land, but nothing whatever will be gained by overcrowding.

Town Extension.—The municipal authorities may by careful planning of new main thoroughfares and prescribing adequate width between buildings, not only provide new traffic arteries at a minimum of cost to themselves and the present ratepayers, but save untold expenditure in future widenings and piecemeal improvements. To secure satisfactory results, however, in this, as in other urban problems, it is essential that some one authority shall have control of the general lines of the plan.

In European countries there is everywhere evident a constant tendency to extend the boundaries of the municipalities, and such a tendency is but a natural outcome of the desire to avoid the repeated waste and overlapping of divergent controlling authorities.

Municipal Services.—With the growth of municipal services, such as tramways, sewerage, water supply, gas, and electricity, the tendency towards centralisation of control becomes more marked, and there is a greater effort towards the realisation of the possibilities and ideals of the town as a whole.

Railways and Traffic Facilities.—In a plan for town extension nothing can safely be left out. Railways are as much a vital part of the plan as roads, and the position of railway stations and goods yards as important or more important than the location of shops and traffic centres. In many a town the whole development is throttled and contorted by one or more huge railway embankments laid down without regard to the growth of the town. In Germany, although railways are as autocratic as elsewhere, the need is frequently felt for revising the position of the railway stations and even the line of the railway itself, and instances of this description of complete removal of the railway have been carried out in numerous cases in connection with schemes of town extension (Frankfurt, Wiesbaden, Düsseldorf, Lübeck).

Functions of Various Classes of Traffic.—All classes of traffic—railways, electric railways, light railways, tramways, motor and heavy goods traffic—all have their proper functions, and all must have their place in the town plan. The combination of light railway and tramway (*Städtebahn*), so much used of recent years in Germany, is full of possibilities, and the flexibility of the modern motor-omnibus traffic must also be carefully considered.

New Streets.—In laying down the lines of new streets some form of classification of roads is desirable. In London a standard minimum of 40 feet wide is adopted. In Australasia the minimum is 66 feet, but any such arbitrary standard must of necessity have serious limitations, and in many cases involve heavy and unnecessary expenditure both in construction and maintenance, to say nothing of dust and other inconveniences.

Disadvantages of Unnecessarily Wide Roads.—The classification of roads into arterial roads, secondary roads, and residential roads is commonly practised in Germany and other European countries, and nowhere better than in Germany can be seen the disadvantages of excessive road widths, with the almost natural consequence of high rents and tall tenements.

Garden Suburbs, &c.—Garden city and garden suburb schemes have everywhere seized upon this possibility of economising, and in such places as Hampstead and Letchworth the residential roadways are not metalled to a greater width than 16 feet, though the distance between the houses is maintained at 60 feet or more, this leaving room for forecourt gardens or grass margins.

Access to Land.—In all problems of town development

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and the settlement of new towns the availability of land is of supreme importance. The questions of land values, land ownership, and land transfer are fundamentally bound up with town planning, housing, and improvement schemes.

"*Betterment.*"—No municipal authority can be expected to carry out any great scheme of improvement if there is no possibility of recoupment from the owners whose property has been improved. So long ago as 1666, in the rebuilding of London after the Great Fire, provision was made for "betterment" charges on owners of the property improved; and, in default of municipal ownership, some such system of recoupment is unavoidable.

"*Special Assessments.*"—In many American towns, such as Kansas City, "special assessments" for the acquisition of parks and similar purposes are in force and appear to be favourably received.

Speculation and Land Transfer.—Speculation in land is much encouraged by the facility with which land transfers can be effected, and the effect of over-speculation from this cause is apparent both in Germany and Australasia. The effect produced is a forced and unnatural increase of prices of land until we see the curious fact that land in Berlin is valued at three or four times the value of similar land in London, and partly in consequence nearly one-half of the population of Berlin live in one-roomed dwellings in tall tenements crowded round one or more internal courts.

Methods of Taxation.—Methods of taxation, too, must be considered in this regard. An annual site tax on capital value leads undoubtedly to the use of land, at any rate to the extent necessary to defray the amount of the tax. In urban areas this means that fewer private open spaces will remain; in suburban areas the tendency is to put up any sort of structure that will act as a "taxpayer." The results in either case must be unsatisfactory, in the absence of any proper town-planning scheme defining the use to which any particular land is to be put in the general interests of the community.

Leasehold and Freehold Tenures.—The relative uses of leasehold and freehold systems of ownership have been much discussed. Leaseholds enable land to be acquired cheaply with the minimum of capital, and also have the advantage on the leases falling in of a considerable amount of property being under one control, thus enabling comprehensive improvements to be carried out, as in the case of the South London property owned by H.M. the King, the leases of which have recently fallen in, and the property has been largely reconstructed.

Municipal Ownership.—In German towns the municipality generally owns from one-third to one-half of the whole available building land, thus to some extent controlling speculation and at the same time enabling the municipality to take the benefit of any improvement created by them. The great value of this method, however, lies in the control which it is possible for the municipality to obtain over the extension of their town. Individual freeholds, without some power of purchase or compulsory redistribution, as in the "Lex Adickes," will continually conflict with the interests of the community. In large estates in one ownership, as at Letchworth and Hampstead, excellent results are obtained by central control, which gives benefit to the community and security to the individual.

General Conclusions.—Town-planning powers would be of immense advantage to Australasia, but the special conditions call for special treatment, and the provisions of any town-planning legislation must be adapted and not merely copied from European precedents.

The town-planning authority should in any case possess free access to all land within their area, powers to preserve amenities, powers to reduce constructional expenses by classification of roads according to their uses, powers to vary constructional by-laws, and powers to regulate the character and description of buildings and the broad lines of architectural design.

TOWN PLANNING IN RELATION TO HOUSING AND HEALTH.

By WILLIAM R. DAVIDGE.

THE present-day evils of cities are largely of modern growth and due to the rapid industrial expansion of the nineteenth century. Slums exist in Australasia as in Europe, though not at present to so marked a degree.

The incidence of bad housing, wages, land values, and transit should all be considered. The evils of uncontrolled suburban development are everywhere apparent, and the effect of existing by-laws and legislation is in many cases but to increase the cost of living for the masses.

Cheap housing depends primarily on cheap land and cheap transit. Cottages compete favourably with block dwellings from the point of view of commercial and family life. Economic rent is, however, strictly limited, and capital expenditure on roadmaking and constructional works should be reduced to the absolute minimum. Prices of building materials are advancing, and the cheap cottage becoming increasingly difficult.

Garden cities and garden suburbs seek to amalgamate the forces of industrial progress with those of health and social welfare. In a system of garden suburbs linked to a central business community the advantages of both town and country may be secured.

The effect of public open space and park lands is under present conditions to increase the value of land in the immediate vicinity, and thus in some cases to render still more difficult the housing of the poorest part of the community. The garden city ideal is to bring every part of the community in close touch with the open country. The belt of agricultural land has many economic possibilities apart from its use for allotments, recreation grounds, and similar purposes. The pioneer settlements in both Australia and New Zealand were in many ways practical forerunners of the garden city ideal.

The individual owner under a properly considered town-planning proposal has perfect security as to the development of adjoining properties, and the growth of a proper civic spirit can be encouraged. Co-partnership in housing, combined with the limitation of dividends, has achieved great success in the development of such communities, and by the aid of State loans there are many further possibilities of co-operation between State, municipality, and individual.

Greater still is the possibility of bringing existing towns into conformity with garden city principles. Legislation is necessary to provide for the town planning of future suburbs and the improvement of existing towns.

THE EFFECT OF TOWN PLANNING AND GOOD HOUSING CONDITIONS ON SOCIAL AND ECONOMIC WELL-BEING.

By JAMES JOHNSTON, J.P., C.E., Member of the Manchester City Council Town Planning Committee.

TOWN planning is necessary for the purposes of making a reasonable measure of health and happiness—of physical, mental, and moral health and strength—possible in all parts of towns, of giving ready access from one district to another, under the supervision of the Local Authority, and for compelling the owners of lands to lay out and develop a district on uniform lines as distinct from each owner developing his own unit of land without regard to neighbouring estates; and not only must cities of the future be well laid out, but in the older and congested parts of our towns the slums must be cleared away and amenities provided. The Town Planning Act of 1909 gives Local Authorities power to provide open spaces and to limit the number of houses per acre, one of the best provisions in a somewhat cumbrous Act.

We have examples of the evil effect of overcrowding in many of the best planned towns, especially in Germany, where the people are crowded into tenement dwellings, entailing loss of physical and moral health and economic loss.

The clearing away of slum property in the central area of our large towns is one of the most difficult problems to be faced, but it must be dealt with drastically, as it is of equal or even greater importance than the laying out of new areas.

The cost is the great difficulty, and under the existing law it can only be dealt with by clearing away slum dwellings in districts declared to be unhealthy areas under the Public Health Acts, and building houses on the cleared sites for the people who have been dispossessed, or by declaring the houses separately unfit for habitation, and compelling the owners to close, put into habitable condition, or rebuild such worn-out houses.

The dominant difficulty in housing reform is the financial one, in providing the necessary minimum of quantity and quality for the accommodation of a worker's family, on account of the limited income of the badly-paid workers and their consequent inability to pay an economic rent. The real remedy would be to give adequate remuneration to the workers, as it is now generally accepted as ethically sound that the first charge on any industry should be an adequate wage for the worker, and the adoption of this principle would render unnecessary the payment of subsidies out of the public purse for housing purposes.

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The method of building houses for the workers in the future is resolving itself into a collectivist system, as the private builder has failed to meet the demand effectively. Houses built for the sake of profit-making entirely are generally inadequate, overcrowded, mean-looking in monotonous rows, and of inferior material and workmanship. This work will have to be undertaken mainly by Local Authorities and Public Utility Societies.

With facilities for obtaining money at cheap rates, a thorough organisation of the work, the more extended use of machinery, and the adoption of concrete as the principal building material, it will be possible to produce houses good in design, hygienic, and permanent in their construction, to let at an economic rent.

THE HEALTH ASPECT OF TOWN PLANNING.

By JOHN ROBERTSON, M.D., B.Sc., Medical Officer of Health for Birmingham.

TOWN planning in England as we know it was originated to prevent the evils which have arisen in the larger towns due to crowding on space, and the baneful influences arising from permitting factories and works of all kinds being interlarded between dwelling-houses in such a way as to make these dwellings dull and gloomy from the smoke-laden air, and dirty from the soot which gains access to the interiors. In most of these large English towns adequate space for the healthy recreation of the dwellers in the central areas was not provided, and in most instances no attention was paid to the amenities of the district, except in a few instances where great natural features existed.

It is very important that density of population should be limited to enable houses to be separated from each other: (1) to allow of sunlight gaining access to each inhabited room; (2) to permit of a current of air at all times round the house; (3) to allow of privacy in the dwelling without the necessity of covering windows completely with curtains, which have been proved to shut out up to 97 per cent. of the actinic power of the sun.

Artisan areas arranged on town-planning lines are difficult to compare with good areas on old lines as regards their health statistics. If one makes all allowance for selection and class, there still remains so great a difference between the statistics of the new and the old conditions as to leave no doubt that in actual practice town planning is one of the greatest advances which have been made in recent times for the benefit of the public health.

THE ECONOMICS OF TOWN PLANNING.

By J. S. NETTLEFOLD, J.P.

STRONG *economic incentive is more effective* for reform than official regulations. To ensure good housing it must be profitable to the owner and bad housing unprofitable. The same holds good with cities and their development.

The main objective of town-planners must be to provide healthy living and working conditions for all classes, especially the poor. The first necessity is adequate supply of light and air. This means larger building sites at the old prices. There is a constant definite proportion between ground rent and total rent. On small house property ground rent equals one-sixth of whole. Cost of site is composed of (1) interest on capital; (2) price of land; (3) cost of development.

(1) *Interest on Capital.*—This is of prime importance. Every 1 per cent. on capital represents about 1s. per week on each small house; hence the necessity for cheap capital, which is unobtainable unless the town-planning scheme is commercially sound.

(2) *Price of Land.*—The supply of land available for building is severely limited by the fact that communication is not provided by public bodies except to developed areas, and builders are only willing to build near to such communications. In the vicinity of all centres there is land of low value due to lack of communication.

Town-planners must increase supply of building land by opening up cheap land and at the same time restricting building density, thereby preventing undue rises in land values. The value of land is governed by its use. Landowners should be met by allowing economical estate development and encouraging quick development, and should be given economic incentive to develop by rating land on selling price, not merely on present income. Overcrowding should be avoided by restricting building density, and, in justice to landowners, assessors must recognise that restriction of building density reduces land values. Main arteries should be cut, opening up new districts through back land, avoiding purchase of costly frontages. Sufficient width should be allowed between forecourts, but only a small width of macadam should be laid, completing with tree-planted grass margins and inexpensive pathways. Under common-sense town planning building density is calculated per gross acre, and therefore it will not cost landowners anything to give the land for these roads; it will pay them to contribute handsomely towards the cost of construction.

(3) *Cost of Development.*—Cheap land is no good without rational development. Necessities must be provided before luxuries are considered. Light and air are more important to health, and much cheaper than magnificent architecture and extravagant engineering in the way of unnecessary sewers, kerbs, and gutters. The main objective of those primarily responsible for the 1909 Act was to reduce cost of town and estate development. Most town-planning schemes since published increase this charge instead of diminishing it. Unless care is taken, town planning will result in worse living conditions instead of better—*vide* Paris and Berlin. Extravagant development raises rents and makes decent living conditions economically impossible except for the favoured few. Harmony can be achieved without reckless expenditure. The city beautiful is of no practical use unless it be also a city of common-sense, providing healthy homes for all classes.

UP AND DOWN THE MEUSE.—II.

By A SKETCHER.

UP the Meuse from Dinant the first village of size is Anseremme, which lies at the junction with the river of its romantic tributary the Lesse. One of the most delightful short excursions from Dinant is the drive past this village, up the hills overlooking the Meuse valley, the château of Freyer, with its formal garden, mazes, and flower-pots, and stately *entourage* of terrace and park, the sloping woods and the uplands "glad with corn," that from this height one sees spread above them, and then by a circuitous descent into the narrow valley of the Lesse, picturesque enough to merit its name of *la petite Suisse*. Crags and cliffs of bold rock, stained purple and grey and red russet, break through the abounding foliage, and the hills fold one into the other, with deep green ravines between. The château of Waizin is built on the edge of a perfectly precipitous cliff in the midst of this scenery, the river curling round the base, and whether viewed from the wooded heights close by or from the meadow below, makes a most tempting subject for the sketcher. The outline, with projecting blocks, sloping roofs, and a pretty centre tower with a good cornice, is pictorial enough, and keeps to all intents the original plan. To return to Dinant in a carriage one descends the Lesse bank, emerging again at Anseremme, but on foot, there is a delightful short cut over the hills.

Scenery of this kind abounds along the Meuse valley and up the ravines of the hills that border it, but the combination at Walzin is certainly particularly romantic. Alas! that it must be confessed, just "round the corner" an enterprising business man has built himself a great square red brick modern house, with all the comfortable appendages of walled garden, stabling, &c., calculated to give satisfaction to the inmates, but to much trouble the artistic mind. Amid the most beautiful scenes one is liable, in Belgium the industrious, to be cast down by this sort of thing. Indeed, it is well if a manufacturing chimney and a row of workmen's dwellings do not possess the foreground. The lovely windings of the Meuse so far as Givet, rich in crag and wood, and groups of ash and alder that fringe the quiet pools and pebbly reaches, everywhere charming in caprice or repose, is, indeed, as yet pretty much unspoilt, even by the quarry-men. But the other side of Givet, where the hills that enclose much of the course are larger and rounder in form, and covered with what is more locally known as forest—extensive plantations of fir, beech, birch wood, and so on—there iron-works, slate-works, and such utilitarian factories disturb the scene with noise, griminess, and mean buildings, and induce various impertinent liberties with the blessed waters of the river, to turn its flow to practical account.

Givet itself is, or was, well worth staying in. The little town is divided into two portions, environed by double

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moats, and guarded by the fortress of Charlemont on the bare escarped cliff on one side of the river, and by watch-towers and fortifications on the hill *vis-à-vis*. Entering from the station, you pass through no less than four gates, where drawbridge and portcullis bring mediæval times to mind. The views up and down from the bridge and river bank are the best. The fortress, which takes an extraordinary length of the ridge into its outworks, gives a strong sky line above its sharply-cut cliff: along the bank the white houses and little boulevard and picturesque round brick watch towers drop bright reflections into the river, which flows so wide and smooth beneath. There is literally nothing of architectural interest in Givet; but it is a cheerful little town; with its strong defences of an especially peaceable and homely-looking community, and its bounteous curves of river.

Like nearly all the towns along the river, Givet is a good centre for excursions. When the morning mists lie heavy over the hills, many a good study, *en grisaille* as it were, may be made of cliff and shining water a short way up. Off the eastern bank—if one may dare name north, east, or west when speaking of this most winding of winding rivers—a short drive takes one to the ruined castle of Yerche. This château, dating from some time three centuries back, has been twice part destroyed, the last time in the revolution of '48, more is the pity, for it must have been a fine edifice, well placed as it is amid trees on a considerable height above the village, and picturesquely built, as seems to have been the fashion hereabout, in courses of pale red brick and quarried stone, now weather-stained and tangled with ivy, and with stone window facings. It had round towers at the four angles, of which only the lower storeys remain, and a centre court. The ruins make a pleasant study of colour amid the soft foliage out of which they rise.

The hills on the Belgian side, in the immediate neighbourhood of Givet, are full of charming valleys, well watered and wooded, but these are invaded a good way up by colonies of iron and copper works, foundries, and their accompaniments of dwelling-houses for the overseers, &c. Neither are the villages pretty. They are very dirty, without the picturesqueness that often qualifies dirt. Though the sight of thatched roofs, moss-covered and stained, is refreshing to the artist's eye, yet there is not much to be made out of them. Beyond the domain of the factory chimney, however, all is perfectly rural. Belgian painters have known how best to treat these sweet quiet green valleys, watered by gentle streams, where no salient picturesque object serves for central interest or suggestion, no water-mill, or farm-house, or jutting crag; but all the landscape needs is such choice and treatment of light and shadow as shall but bring out the forms of the enfolding hills, and reveal the poetical variety in monotony of purely pastoral scenery. Once introduce human interest, rustic figures, or herds at graze watched by a blue-coated urchin, and the landscape retires into an entirely harmonious background, and you have an idyll called up out of simplest material.

For the benefit of the reader, we may add that Givet is one of the best starting-points for a tour in the forest and river scenery of the Ardennes. By Gedinne you can pass up the windings of the Semoye to Bouillon, drive thence through the forest to Florenville and Orval, and thence strike the Luxembourg rail, or drive up through Belgian Neufchateau and St. Hubert to Rochfort, and across to the Meuse again—thus accomplishing a circuit through some of the finest forest and river scenery anywhere to be seen.

Once out of the environing hills that bound the Meuse between Givet and Mezières, the landscape artist may pack up his traps for awhile. Mezières-Charleville is a flourishing manufacturing town, or pair of towns, for the two portions are quite separated by the river, situated both between gentle hills, partly wooded, and the monotonous cultivated plain that stretches away both south and west. Mezières is the elder half of the town, and boasts a handsome church, which by comparison is antique. It is a good specimen of the showy style of the seventeenth century, is built of the yellow local stone, has much external ornament in crocket and panelling, heavy transept portals, and double towers at the west end. But the interior is only imposing by size and pleasant proportions. The rival church at Charleville, a modern antique, does the community credit for good intentions. The style is a sort of spurious Norman, and the architect, M. Racine, has compiled a number of features which somehow do not "gee," as the saying is. The church is ambitious both in scale and style, has its arcaded triforium and its lofty clerestory, and a very elegant apse and its two western towers; is lofty and well-proportioned, and is profusely adorned with surface decoration on every available space. Altogether it is evident that the prosperous community of Charleville were ready to pay for a good modern imitation of the cathedrals which dignify the older towns of France. But Mezières-Charleville has nothing to detain the lover of the picturesque on a voyage up the Meuse. Still worse are matters at Sedan, where the river, banked up, locked, and bridged as it is, seems to strive to get quit of the detestable sight of the wearisome ramparts and hideous factories and hot dirty streets. If fair France had been all after the pattern of this unenviable region, Napoleon III. might have here given up his empire and his sword without a sigh. Between Sedan and Verdun the valley is prettily diversified by sloping hills and little red-tiled towns, with their poplar trees and orchards about them, and their church with a good tower. Mouzon shows an important-looking Gothic church, with double western towers, and a rose window in its handsome façade. Dundoulgon, besides its queer name, is quaintly posed half on a wooded hill and half in the green meadows about the base. In and out among these little towns, some on the plains and some on the hills, the pedestrian artist, with his sketch-book under his arm, might pick up many a quaint morsel yet.

The Meuse has still a full flow round the steep hill on which Verdun, capital of the Department Meuse, is effectively built, and sweeps through the lower town, reflecting the many-coloured houses with jutting storeys that give a look to the view from the Pont Chausée reminding one of Holland. The town itself cannot be called either picturesque or beautiful; yet it is not unpictorial, with its close-built dun-hued streets winding round and round to the great cathedral that overlooks the town, the double walls, the green meadows at its feet, and the pleasant country round. It is not easy to get a telling view of Verdun, but it looks uncommonly well from the bridge over the river between the first gate and the drawbridge over the moat on the southern side, where you get the water and turf-topped bastions in the foreground, and the town piled up to the church with its towers against the sky. The cathedral takes one rather by surprise from its great scale and curious combinations. Verdun, it must be remembered, was an important bishopric, one of the three known as *Les trois Evêchés*, Metz and Toul being the other two, and its early history gives it prominence in the days of Charlemagne. This huge church has little of interest on the exterior, save some very curious sculpture on the buttresses of the apse, representing apparently Adam and Eve in two stages of their story in the garden of Eden, and a bishop. The interior is spacious and very lofty; has a double transept at east and at west; a rounded apse, and a circular western end, used as a baptistery; massive square piers, with Classic caps; a portal at the north side as high as a house; and a baldachino with spiral columns that apes St. Peter's at Rome for slendour. On the south side is a Gothic votive chapel, the gift of the Baroness d'Anglemont in 1874, which is a handsome specimen of modern Decorative revival. The chapel, walls, clustered shafts, and altar are entirely painted in diapered patterns. At the east end, on diapered gold ground, are floating angels holding a scroll above an aureole, against which a statue of Christ on the altar stands out. Below are foliated arabesques. The vault is, as usual, blue, with gold foliations and diapered ribs. The chapel is, moreover, enclosed by beaten iron grilles of very beautiful delicate design and workmanship. But the chief feature is the stained glass designed by M. E. Dibron, a name familiar in ecclesiastical art. There are three windows, of three divisions each, and the subjects illustrate the origin of the order of the Sacré Cœur and incidents in the supernatural institution of the Blessed Sacrament. Throughout the windows a certain conventional and flat treatment of the figure and subordinate details is preserved, but without archaic contortion or the least touch of the grotesque; and though frankly "picture-glass," and leaded somewhat after the Munich manner, yet the ensemble more suggests a splendidly illuminated and enlarged manuscript than an imitation of an easel picture, as is the case with the German glass. The colour is singularly gorgeous but harmonious, flashing in brilliant rose-scarlet and deep green and purple, with sparkling high lights. Indeed, this is one of the few instances in which stained glass not only overpowers, but seems to require the juxtaposition of polychrome in the stonework.

Our road lies now through rather uninteresting country, by Leronville and Pagny-sur-Meuse, past Domrémy la Pucelle, which we visit presently, to Neufchateau in the Vosges, where we find colour and warmth almost Italian.

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MAGH SLECHT—THE IRISH STONEHENGE.

DISCUSSING the, at present, unanswered question as to the exact site of Magh Slecht, the headquarters of sun-worship in Ireland, Mr. J. H. M'Govern, Licentiate R.I.B.A., writes:—

Some fifty years ago the great O'Curry, in his lectures on the "MS. Materials of Ancient Irish History," anent the point, says: "This was the battle of Magh Slecht on the brink of Ath Dearg (the Red Ford) at Alt na h'Eillti (the Hill of the Doe) over Realach na Beithighe (the Road of the Birch). The precision with which the scene of this domestic battle (which took place in the modern County of Cavan) is laid down in this article is a matter of singular interest, indeed of singular importance, to the Irish historian. Magh Slecht (that is the Plain of Adoration or Genuflexions), the situation and bearings of which are so minutely set down here, was no other than that same plain of Magh Slecht in which stood Crom Cruach (called Ceann Cruach in the Tripartite Life). The precise situation of this historical locality has not been hitherto authoritatively ascertained by any of our antiquarian investigators, but it is pretty clear that if any man fairly acquainted with our ancient native documents, and practised in the examination of the ruined monuments of antiquity, if, I say, such a man with this article in his hand, and an extract from the Life of St. Patrick, should go to any of the points here described, he will have but little difficulty in reaching the actual scene of the battle, and will stand with certainty in the veritable Magh Slecht, and may even, perhaps, discover the identical Crom Cruach himself with his twelve buried satellites where they fell and were interred." I do not know whether Mr. O'Reilly has personally gone on these lines of investigation, or is quoting from the researches of Mr. W. F. De V. Kane, D.L., on this particular point, although he refers to him as regards "Tuathal and his descendants waging long and bitter wars against the Kings of Ulster." However, Mr. O'Reilly says "that the site of this battle is likely the ground from Magh to Aghoo Bridge along the river from Ballinamore to Garadice Lough," and "that the old name of the Plain at Ballymagovern, by some supposed to be Magh Slecht, is Fionn Mhuighe (Finvoy), that is "White Plain." I think that I cannot do better than give here an excerpt from the footnote of the distinguished translator (Dr. J. O'Donovan) of the "Four Masters," vol. 4, 2nd ed., 1856, under the year 1459:—"Magh Slecht: Lanigan in his 'Ecclesiastical History of Ireland,' vol. 1, p. 239, states that Moyslecht, the Plain in which the Idol Crom Cruach stood in St. Patrick's time, is near Fenagh, in the County of Leitrim, in which he would be correct were it not that from his words others have inferred that Moy Slecht is in the County of Leitrim, which is not the fact, for we have most satisfactory evidence to prove that Magh Slecht is in the territory of Teallach Eathach, which is the present barony of Tullyhaw, in the County of Cavan. According to the Lives of St. Dallon and St. Maedhog it was the ancient name of the level portion of the country called Teallach-Eachdhach, and according to the Book of Fenagh the Plain of Magh Slecht, which was anciently inhabited by a sept of the Firbolgs called Maisraighe, was situated on the east side of Magh-Rein, which comprised about the southern half of the County of Leitrim. The fact is that the Plain of Magh-Rein, in which the monastery of Fenagh is situated, is the level portion of MacRannall's country, and the Plain of Magh Slecht, where the Idol Crom Cruach stood, is the level portion of Magauran's country in the north-west of the County of Cavan. The village of Ballymagauran is distinctly referred to as situated in this latter plain, and no part of it is included in the County of Leitrim." Mr. O'Reilly also says: "It is recorded that the renowned Conal Gulban, brother to the King of Tara, was killed in the battle of Magh Slecht—I have no doubt in an attempt to conquer the Muinter Eolis (MacRannalls). He was buried beside the Abbey of Fenagh, where his grave, a cromlech, is still pointed out—a proof that Magh Slecht is adjacent to Fenagh." I fear that the learned annotator of the "Four Masters" in a footnote under A.D. 464 will not bear out this statement and conjecture in its entirety, viz.: "According to the Book of Fenagh Connal Gulban was killed by the Masraidhe, an ancient tribe of the Firbolgs who were seated in the Plain of Magh Slecht (around Ballymagauran in the north-west of the County of Cavan). He had gone upon a predatory excursion into their territory and seized upon a great prey of horses, but he was pursued and overtaken at Loch Saloch, near Fenagh, in the County of Leitrim, where he was slain and buried." Until the reign of Elizabeth County Cavan formed a portion of Connaught, when it was added to Ulster. Mr. O'Reilly informs us also, for obvious military reasons the battle between the O'Reillys and the Connacht Kings did not take place at Ballymagovern. "The line followed by the O'Connors on other recorded occasions of their invasion of Breffney passed through Fenagh, or Cloone, to Killeshandra." Of course, this statement is merely a conjecture considering that the O'Rourkes and the MacGaurans or M'Goverms were their allies (see "Annals of Loch Ce" under 1256, wherein are recorded many references to the sept not given in the "Four Masters," and those references given in the "Four Masters" do not give the reader the idea of the importance of the persons referred as those supplied in the "Annals of Loch Ce," and those contained in the "Annals of Ulster"). The translation of the "Ancient Gaelic MS. Book of Thomas MacSamhradain," anglice MacGauran, Magauran, M'Govern, or M'Gowran, would doubtless throw a flood of light on the position of Magh Slecht. In 1896, when searching amongst the reports of the Historical MSS. Commissioners, I came across the following official reference thereto by that eminent Irish scholar, J. T. Gilbert, Esq., F.S.A., and contained in the second report and presented to both Houses of Parliament by command of the late Queen Victoria, "MS. in the Irish Language on vellum, fifty-four pages folio, in double column, imperfect at beginning and end. The penmanship is excellent, but the vellum is dark and defaced in some places." From a note on the first page we learn that this book was transcribed by Adam O. Cinan for Thomas, son of Brian MacSamhradhain, apparently the Chief of the territory of Teallach Eachdhach, Tullyhaw, in the north-west of the present County of Cavan, whose death is chronicled by the "Four Masters" under the year 1343. The contents consist mainly of poems on the genealogies, achievements, and liberality of the Chiefs of Teallach Eachdhach and their relatives. Among the Chiefs are named Brian Fearghal, Maghnus Niall, and Thomas MacSamhradhain. Of their wives and daughters the following are commemorated: Gormlaith, daughter of Brian MacSamhradhain, wife of O'Reilly; Nuala, daughter of Maguire, wife of Thomas MacSamhradhain; Sadhbh, daughter of Cathal Oge O'Connor, wife of Niall MacSamhradhain. Some of the authors of the poems are as follows: MacNaimhin, Patraic O'Cumhain, Caec Ceise, Ollumhain, &c. The volume also contains various pieces in prose on the territories, rents, and genealogies of the sept MacSamhradhain and the families with whom its members were allied, including those of O'Conor, O'Donel, O'Ruarc, and O'Raghallaigh or O'Reilly, &c. There does not appear to have been any account hitherto published of this manuscript. Some of the poems which it contains are the only productions at present known of their authors, and the volume may be regarded as a valuable accession to the collections of the native literature of Ireland of the fourteenth century. The prose portion of the manuscript may be said to be the muniments of title of the clan MacGauran or M'Govern to their cantred or Barony of Tullyhaw. The manuscript is in the possession of the O'Conor Don, Clonalia, Castlerea, and forms one of the collection submitted by his late father to the said committee.

SHELTERS.

IT is but seldom that people's plans are upset through the vicissitudes of our English climate, but even the "Merry Monarch," in spite of the well-known saw attributed to him, would have seen the wisdom of more adequate provision against the inclemency of our weather were he among us at the present day; and even he did not disdain the protection of Samuel Pepys's mantle while going across St. James's Park. There is no doubt that we do need more shelters in more ways than one. The solitary tree is really a death-trap in a thunderstorm, and we have had one more instance of this in the calamity recently on Wandsworth Common. Our parks and open spaces are destitute of the protection of public shelters from rain and sun. There is no sufficient reason why adequate shelters with dry benches beneath should not be provided for temporary protection from a shower, nor why these should not add to the amenities of our parks. Vauxhall Gardens can hardly be in the recollection of any living person, but engravings show how well thought out were the alcoves and arbours and loggias of that delightful rendezvous. The authorities nowadays cannot surely have a rooted objection to such conveniences

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as shelters, and certainly the expense of providing and maintaining them need not be considerable.

When the colonnade in Regent's Quadrant was pulled down in 1848 it was unfortunate, for a splendid protection from the weather was abolished, and what must have been a beautiful architectural effect destroyed. The public authorities are evidently not at all alive to the pressing need in London streets of protection from the caprices of our climate, much less are they concerned with any argument in favour of architectural aspect of our public places. This is not the way in which they regard these matters on the Continent. In the principal parts of Paris, for instance, there are the Palais Royal and the Rue de Rivoli, with its beautiful arcades and many other means of shelter for the public protection. In London, especially where buildings front on open spaces, there might be secured to the public similar advantages fully in harmony with the surroundings. A shelter taking the form of a Stoa might on every account be provided against the back wall of Trafalgar Square where there is height enough, and if treated simply and architecturally a refuge here from the weather would add interest and purpose to a somewhat forlorn tract which otherwise but few can conveniently make use of in rain or shine.

The consideration of shelters calls to mind cases in which their presence is a positive disfigurement by their being badly designed in themselves, and badly articulated to the building to which they belong. It is only too evident that these appendages to buildings of public resort are an afterthought, united by a species of architectural cobbling which is positively painful. It is quite the exception if a well-designed shelter which is not an arcade or colonnade is met with anywhere in London, yet there is no reason why a harmonious structure in glass and metal should not be possible in connection with any sort of secular building; but as things are managed at present the question does not seem to be seriously considered from the first.

THE RELATION OF INDUSTRY TO ART.—I.*

By SIR CHARLES WALDSTEIN, Litt.D., Ph.D.

FOR the three lectures I propose to examine the industrial and commercial aspect of art, using the term art in its widest acceptation. It is concerned with all the works of man which primarily are meant to satisfy the æsthetic instinct, the craving for beauty or harmony, inherent in all human beings, towards the satisfaction of which man, even in the earliest phases of his development, makes a supreme effort; so that there is no phase in the existence of man in which this instinct was not of paramount importance to his very existence and does not manifest itself in the largest proportion of works which he has left for us to study. Furthermore, I include all manifestations which arise out of, and tend towards the satisfaction of, man's desire for beauty and harmony, be it in sounds or words, or fleeting movements of the body. Dancing is as much an expression of the artistic instinct as is the production or the admiration of a statue; a novel is as much a work of art as is a picture; music in all its forms is as directly—perhaps more purely and directly—a department of art as is architecture which provides us with beautiful houses or cathedrals.

But, as I have said, it is only one aspect of art which is to occupy us during these lectures: namely, art in its relation to industry and commerce.

Now, in their essentials, art and industry may be said to be opposed to one another, though there is an early phase in the evolution of man when the useful, the pleasant, and the beautiful may have been one and the same. In its higher development, however, art may be considered to be opposed to industry in its essential spirit. Its primary aim is not to produce an object of use. It begins, as it were, where use ends; or rather we may say that art cannot arise and flourish when the whole of man's energy is absorbed by providing for the necessary material existence of life. In this sense art partakes of the nature of luxury.

The object and aim of a work of art is the satisfaction of the æsthetic instinct. In due course it thus leads to the production of the picture, the statue, the musical composition, the poem, the drama, the book of fiction, the beautiful building. Its aim is not to produce the useful, the good, or the true—but the beautiful.

Keeping this central fact clearly in our minds, we must also recognise that in the earliest phases of man's existence, as well as in the later and more complex periods of civilisation, especially in our own immediate days, art does to some degree enter into all spheres of man's productive activity, and that his desire for beauty—for ornamentation and decoration—asserts itself actively in the production of almost every article which was primarily meant for use and nothing more.

In the construction of his early wattle-hut, the artistic pleasure in the curved shape, in the regularity and symmetry of the arrangement of those primitive materials, is a potent guiding factor.

Still more is this the case in later periods of man's evolution, and especially in our own days. Art is very rarely divorced from industry. Even in a machine, which is constructed solely and with inexorable economy of labour and purpose for some mechanical object, the parts are duly polished, the exact lines and curves of the workmanship in each part are finished to the last degree beyond the mere need of their perfect finish for mechanical purposes. You cannot wholly exclude, in even the least artistic activity of man and the works he thus produces, the æsthetic element.

We can recognise varying degrees of purity in the several arts. Negatively, we may say that art is purest when it is least affected in its production and its appreciation by the other considerations of human life—use, goodness, and truth—when its expression is most directly artistic and not mechanical. I should thus put music first—I mean musical composition—because the elements out of which such a musical composition is constructed, namely, tones and their relation to one another, are least likely to serve any other purpose. A tone is neither useful nor useless, morally good nor bad in itself, true nor untrue. The effect of music upon the hearer is purely æsthetic, and does not evoke in him the desire for useful application, it does not call for moral approbation or disapproval, nor does it directly appeal to his sense of truth. In the making of a picture and a statue mechanical devices are introduced in order that the artist may reach his æsthetic purposes of expression which are borrowed from other spheres not artistic. They are, more or less, mechanical devices and processes which he applies. The artistic impulse is modified by, and infused with, other purposes and activities foreign to the pure artistic instinct. Moreover, in most cases—not so much in purely decorative sculpture and painting—he also reproduces definite forms from nature which, in order to be apprehended by the spectator, must call upon his sense of truth and the correct apprehension of things as they are. He thus traverses, in this phase of his complex æsthetic work, the territory of science or truth. In poetry, or in the drama, this applies still more strongly.

Architecture has often been called the mistress art. But, of all the arts which we have just considered, it is the least pure, because it is directly evoked by the useful purpose of construction, in which use is the predominant factor, as well in the selection or fitting of a cave or wattle-hut as in the building of a great cathedral. The construction strictly follows the useful purpose of sheltering and housing and holding, not only a family, but of containing large numbers of people for purposes of collective meeting or religious worship, and this construction must, before all, aim at stability and permanence. Moreover, the nature of the material used for such definite purposes must be considered in every phase; until we come to the elaborate structures of giant edifices in steel and concrete, which appeal more directly, in the first instance, to the scientific and mechanical training of the engineer than to the artist. It is true that the architect has in the past evolved, and will, we may hope, do so still more in the future, principles of beauty, appealing to and satisfying the æsthetic instinct of man, which harmonise with his primary constructive purposes of use and stability. But it is most important for us to recognise that the primary function of an architect is as such not artistic, or not purely artistic; and that the "mistress art," of which he is a votary, is not the mother of arts and cannot lead us to the truest understanding of the essential nature of art, as well as its ultimate purpose. I maintain that a good deal of harm has been done, not only to the study of æsthetics, but even in the most remote practical application of artistic principles to industrial art in our own times, by this appeal to architecture as a dominant guide in matters artistic. It is, for instance, probably due to this mistaken architectural view in art that we constantly meet with the misleading statement that beauty must always be the outcome of constructive use.

* Abstract of the first of three Cantor lectures delivered before the Royal Society of Arts, and reported in full in their Journal.

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This is one of those hasty over-generalisations which have a certain foundation of truth. It is true that a directly unconstructive ornament is bad and ridiculous. But it is equally untrue that good ornament has always arisen out of some constructive use. Good ornament, like all good art, has been evolved out of the artistic instinct of man which led him to satisfy his sense of harmony and beauty in the forms with which he surrounds himself. We may even say that the less he thinks of the use, when striving to produce beauty, the more likely is he to succeed. No doubt it is better to have no ornament at all than bad ornament. It is true that a well-worked chair of the simplest form, made by a competent joiner, is probably more pleasing to the eye and represents better art than the most elaborate over-decorated chair with redundant and bad carving produced by an incompetent decorative artist. But the great art of all past periods has produced ornaments which in no way were evolved out of the constructive use. The meander pattern, the honeysuckle, the acanthus, and the egg and dart of ancient Greece, were evolved irrespective of the material in which they were fashioned originally—if we can ever discover this—and have found their way into Greek art in every material form and use, however beautiful in themselves, independent of construction or material. Nobody can justify the ornaments in Persian rugs, in Oriental or French rococo carpets or furniture, with flowers and animals and all other forms to walk and sit on; of Chinese porcelains or any other works of ceramic art, out of the pure construction of the use of the object or the material out of which it was made. But these several groups of artistic works and periods have created a style, a convention, the ornaments of which are certainly beautiful in themselves.

Practically all arts, however pure, require the introduction in the fashioning of them of elements which belong to other spheres of human activity. We may put it down as a rule that the more mechanical appliances are introduced into the making of a work of art, the less is the work expressive of the pure æsthetic emotions of the artist. The more an object is mechanical, the less is it artistic. We may, therefore, also say that handicraft, from this point of view, is far nearer art than manufacture, and that manufacture tends to counteract the artistic quality in a work with artistic pretensions. But this rule is far from being absolute.

I want you always to remember that a work of art becomes one, or not, in the degree in which it appeals to and satisfies the æsthetic perceptions and feelings of man. The more human productions do this, the more are they artistic. The less they do it, the less are they artistic.

It is interesting to note that during the seventh and sixth centuries B.C., when the pure art of sculpture made such rapid strides in freeing itself from the archaism and conventionalism of the earliest statues of Greece, definite inventions, which might be classed as belonging to the industrial or commercial side rather than to that of art, had their influence in accelerating the development of the best sculpture. We thus learn that in metalwork the invention of the sculptor Glaukos of Chios in soldering iron was made about this time, as we also hear that the sculptor Byzes of Naxos invented the art of sawing marble. It is true that our information, derived from the ancient writer Pausanias, especially connects this invention of the ancient sculptor with the production of marble roof tiles. But you will readily understand of what influence it was in the advancement of sculpture for the making of statues to manipulate large blocks of stone and marble. For before that we notice in the actual style of the conventional statues the restrictive influence of the limits of material as prescribed by a tree-stem or board of wood in the attitudes of the early statues.

Furthermore, in the beginning of the sixth century we hear of the invention by Theodoros and Rhoikos of Samos of the casting of bronze. There exists evidence that before that date this art had already been practised in Egypt and the East, but Pliny's reference no doubt refers to the introduction of this invention into Greece as directly applied to the making of statues. In any case it is a significant fact that such inventions of a purely technical and industrial character should be recorded in the very period when pure art began to rise and emancipate itself from archaic trammels. I wish you especially to realise the case of bronze-casting as applied to statues. When you consider this carefully you will realise that the artistic production of a statue in the round was not only facilitated but greatly advanced in artistic quality and infinite variety of expression by the introduction of what is definitely a technical or industrial process. It certainly greatly increased the productiveness of the artist. In many cases the increase is more than tenfold. In most cases the production of a marble statue is not exclusively due to the actual handiwork of the sculptor himself. His most important artistic work of composition consists chiefly of the modelling of his statue in clay or wax. After this a cast is taken, and from the cast, by purely mechanical process, the statue is transferred to marble—in a large number of cases, if not in most cases, this marble work being entrusted to the artisan-craftsman, who does most of the carving. There are sculptors who do all this work themselves, and there are but few real artist-sculptors who do not, at least, put the finishing touches into the marble statue after it has left the hand of the artisan assistant marble-worker. In any case, however, even in the purest of all plastic and graphic arts, there is a considerable intrusion of purely mechanical processes which belong to, or are related to, the domain of mechanics and manufacture.

It may even be maintained that the more we can succeed in substituting purely mechanical processes for the execution of work, the more will it enable man to concentrate his productive attention upon the design itself—or rather, upon the artistic emotions which inspire his artistic creativeness. At the risk of being paradoxical and of exaggerating the point I wish to impress, in order to enforce its perception upon you, I might say that, though the qualities of actual drawing and brush work on the part of each painter are most important and essential artistic qualities, I can perfectly conceive of the day when some process, analogous to colour photography in the actual production of a pictorial design, will leave the painters free to concentrate all their artistic effort on the realisation of the harmony of form and colour with which their creative imagination has filled them, and to produce works which more directly and in greater purity express their æsthetic feelings and evoke them in the spectator, thus realising a purer art than has hitherto been produced. Guard against the hasty ideas and statements which meet one every day, when it is maintained that, because of the mechanical facilities of modern manufacture, art is being killed; while, on the other hand, a romantic and often insincere and utterly futile movement prevails, which recommends the revival of the imperfect processes and the effete social and industrial conditions of the past, in order to restore a nobler art in the present. It can with equally good reasons be maintained that art has nothing to fear from the simplification and economy of the processes in producing works, so long as the taste and the feeling for form and design are true, noble, and highly developed in those who originate the works produced by manufacture.

The ready distribution of artistic elements among all social layers, which formerly could never be reached, was unheard of in days of old. Imagine how art enters into every form of material production in the goods which men and women purchase, from the wealthiest to the poorest. The primary demand is always that such objects should please the eye. Almost nine-tenths of the goods produced in this commercial age of ours have, as an important, if not the essential, element, the appeal to the eye and to the taste of the purchaser. Go through the shops with this question in view and see whether I am right or wrong in my statement. You may say that most of this is bad art. I disagree with you. There is no excuse for people ever to have ugly things about them nowadays, when, from the simplest articles of use and apparel to the colour-prints, lithographs, and engravings of all kinds with which, at a low figure, they can adorn their walls, beautiful things are within the reach of the people in every layer of modern society.

But, if art does thus permeate every phase of our vast industrial productiveness, the task of developing and improving, of maintaining a high standard and striving at still higher refinement in taste, becomes of paramount importance. In this blending of art and industry (which, from one point of view, as I maintain, are essentially opposed to one another) remember that, after all, the most important element is that of art itself and the taste which produces it. And this artistic side can only be advanced, and can only be impressed upon those who blend it with other purposes, by the study and the appreciation of pure art and those manifestations in which the artistic aspect expresses itself most clearly and perfectly. The higher the pure art, the nobler and more perfect the pictures and statues and buildings, the musical compositions and the poems, and the dramas and novels, and even the dancing, within our community and our age, the better and superior

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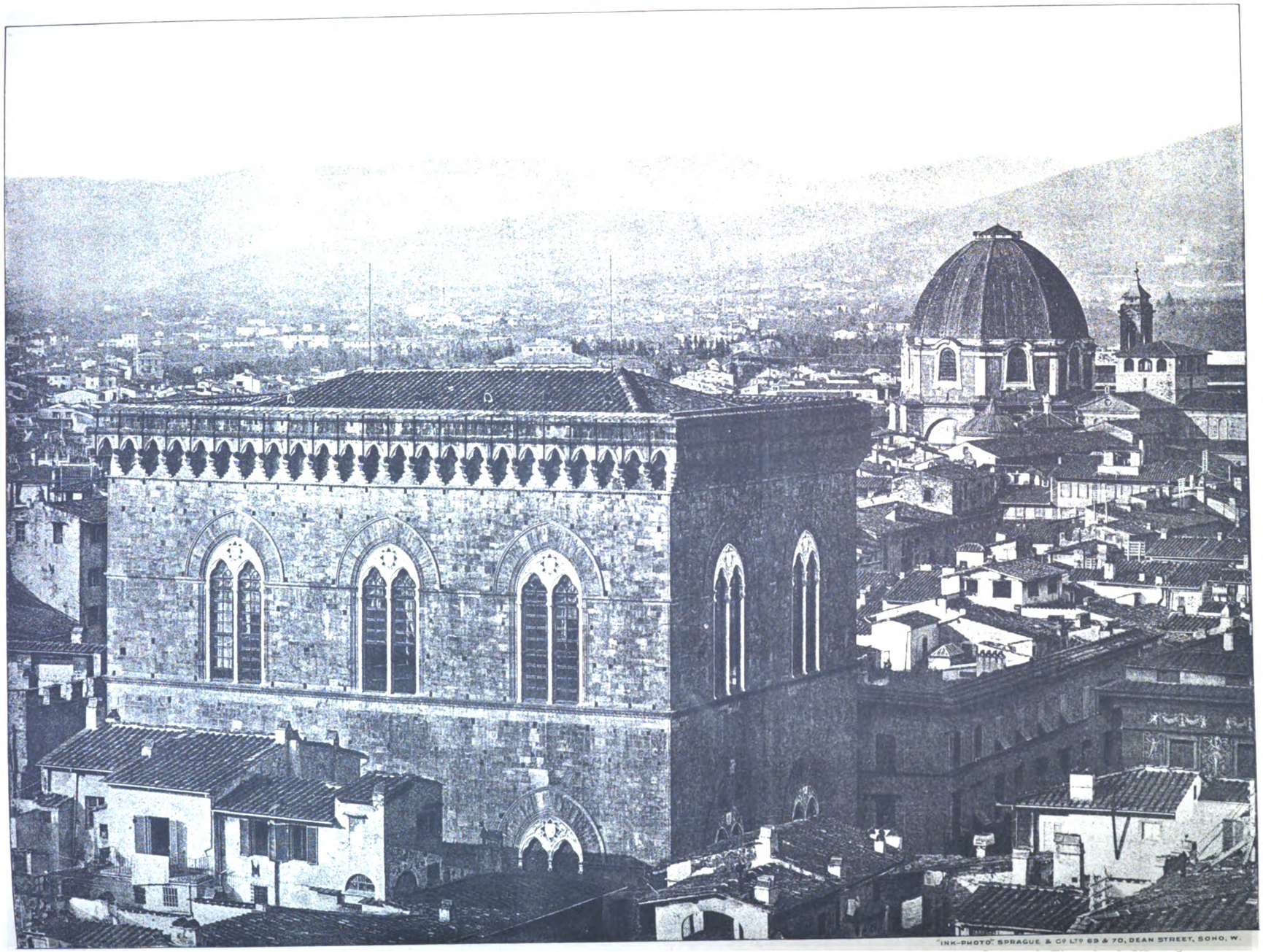
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will be the manufacture of goods and the more profitable will these be.

I would, therefore, lay it down as an axiom: That it is in the interest of the community and of the State that the best and highest forms of pure art should thus be produced and made accessible and appreciable to the community as a whole. Now, what I wish to examine in these lectures is the question as to how this can be done. Whether our present institutions and the action of the State in this regard are not in several cases unfavourable to this important development of national life; and, positively, how, through definite lines of action, we can improve these conditions so as to develop a progressive art-industry.

Instead of encouragement and protection, we find that in the action of the State and in certain definite trade customs in industries allied with art, or affecting the diffusion of taste, forces are at work which directly discourage, penalise, and impede the development and diffusion of pure art in its highest form. I call this state of things the Impedition of Art.

We are at the present moment constantly reminded of the serious depression from which our artistic community is suffering compared with the comparatively flourishing condition of artistic production a generation ago. With a flourishing trade about us, with the rapid increase of wealth, it does seem strange that producers of the best works of art should thus suffer. The prices which the leading painters of the last generation obtained, not only for their portraits, but for their subject-pictures, landscapes in oils and water-colours, were higher than they are at the present moment; and, moreover, we are informed that the market demand seems reduced for such best and costly works—in fact, that it is hardly possible to find purchasers. Many reasons have been given for this depression in what I might be allowed to call the trade of the highest art.

Now, I venture to maintain, and shall endeavour to show, that there is one cause to which, more than to any other, we may attribute this decline in the market of the best works of modern pure art. This cause, I maintain to be found in the ultimate working of what are called the Death Duties. I must tell you at the outset that I do not intend to enter upon the discussion of the rightness or wrongness of this form of taxation as a whole. I may even in principle, and, to a certain degree, consider it a just tax; but I do maintain that in its effect upon the development and encouragement of the highest forms of pure art in our community it is nefarious. That my contention has been realised by responsible legislators and Governments to a certain degree is manifest from the fact that, since the first presentation and passing of the Finance Act in 1896, amendments have been introduced which to some degree recognise these deficiencies and endeavour to remedy them. I mean first the amendments in paragraphs relating to heirlooms, and, more especially, paragraph 63 of Part III. of the Death Duties of 1910, which reads: "In the case of any person dying on or after the thirtieth day of April, nineteen hundred and nine, section twenty of the Finance Act, 1896 (which gives an exemption for objects of national, scientific, or historic interest), shall be extended so as to give an exemption from legacy and succession duty, as well as from estate duty, and as so extended shall take effect whether the property in respect of which the exemption is given is settled or not, and as if the reference therein to national, scientific, or historic interest included a reference to artistic interest, and duty shall only become chargeable when the property is sold, and then only in respect of the last death on which the property passed."

The cogent paragraphs of the Finance Act, 1896 (Ch. 28, Sec. 20), read thus:—

"(1) Where any property passing on the death of a deceased person consists of such pictures, prints, books, manuscripts, works of art, scientific collections, or other things not yielding income as appear to the Treasury to be of national, scientific, or historic interest, and is settled so as to be enjoyed in kind in succession by different persons, such property shall not, on the death of such deceased person, be aggregated with other property, but shall form an estate by itself, and, while enjoyed in kind by a person not competent to dispose of the same, be exempt from estate duty, but if it is sold or is in the possession of some person who is then competent to dispose of the same, shall become liable to estate duty.

"(2) The person selling the same, or for whose benefit the same is sold, and also the person being in possession and competent to dispose of the same, shall be accountable for the duty, and shall deliver an account, in accordance with section eight of the principal Act, in the case of a sale within one month after the sale, and in case of a person coming into possession, or if in possession becoming competent to dispose, within six months after he so comes into possession, or becomes competent to dispose."

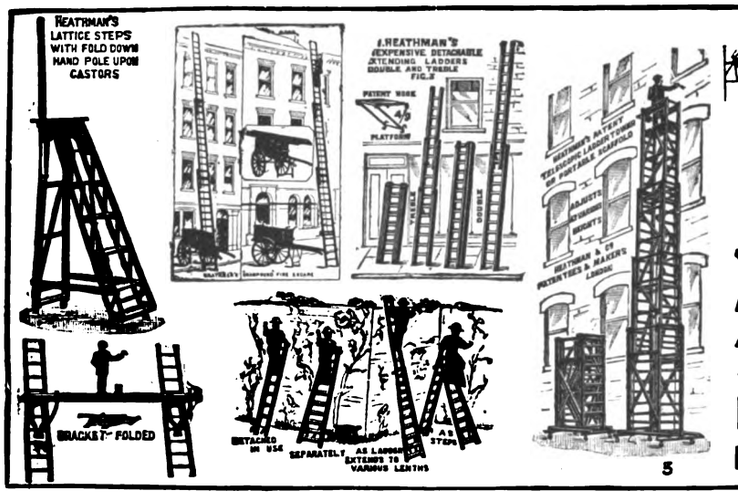
The exemption of heirlooms of general historic value is wholly for the good; but it would generally apply to objects of some antiquity. It practically denotes works of Old Masters and so-called antiques. In so far as the term historic interest may be defined, it would only apply to historic interest in reference to this country, or to the presence of such a work of art in this country. I do not see why, so long as such a work remains in this country, for the good of the country, it should be subject to any taxation when necessity has led to the selling of it, so long as it remains here. I may add that, in case it should leave the country, it would be just to exact a tax which, as has frequently been maintained with justice and emphasis by the patriotic leaders of the National Art Collections Fund, might be set apart and used as a fund wherewith to purchase art treasures for the nation. But I wish to draw your special attention to the products of contemporary art which are not included in this protection, but are actively impeded. I emphatically maintain that such Death Duties ought in no way to be applied to the production of the highest works of contemporary art which it is in the interest of the nation to encourage in every way and certainly not to discourage. It is in no sense in the spirit of a tariff reformer, or as one holding strong views on one side or the other with regard to economical theories, that I maintain it to be the duty of the State to encourage in every way the production of superior and costly works of art. Their commercial distribution ought to be left perfectly free—in fact, it ought to be protected by the State. For a period of at least as long as by our new laws copyright lasts, such works ought to be free from all taxation. If it were possible we ought almost to subsidise their production. Instead of this, what do we do; and what is the action of the State through the effects of the present Death Duties? It is directly to discourage the wealthy purchaser from investing in an expensive picture or a statue by a living artist.

Allow me for the moment entirely to ignore the higher aspects of art production, and to step down into the arena of commercial competition—the regulation of prices, supply and demand, the material inducements to purchase certain goods because of their market value and nothing more. Let me tell you what happened with regard to the best pictures and works of art thirty or forty years ago before these Death Duties were enacted.

The patron of art of that time realised that the works of the Old Masters had considerably appreciated in value from the days in which they were purchased. In simple words, he saw that those who had ordered a picture by Gainsborough, Reynolds, Romney, Raeburn, Hopner, Turner, Girtin, Constable, David Cox, Copley Fielding, the Cromes, Cotman, and many others, a hundred years before, besides possessing a beautiful work of art to enjoy, had made a good investment for their heirs and successors. He was, therefore, not deterred from expending a considerable sum on such a work of art, because he realised that after his death his heirs would not be losers by it. Since the succession duties have come in his whole attitude has changed in this respect. Not only he must now doubt whether he has made a good investment for his successors; but he may even be forced to believe that, from a commercial point of view, he may have saddled his successors with, what he might call, a white elephant. The thousand or two thousand pounds which he thus locked up in a picture or statue, even if the work appreciates in value, will leave his heirs with the burden of a heavy succession duty to pay on them. The more modern the work, the more it is of contemporary production, the greater is it at a disadvantage; for the price paid for it is readily ascertainable, whereas the market value of an Old Master cannot be exactly computed and hardly ever is taxed up to its actual value. When once this possible purchaser of the most costly and superior works of pure art has realised these facts, it will readily be perceived what a deterrent they must be from his investing in such costly goods. And you must remember that this class of purchaser constitutes by far the largest number of possible purchasers.

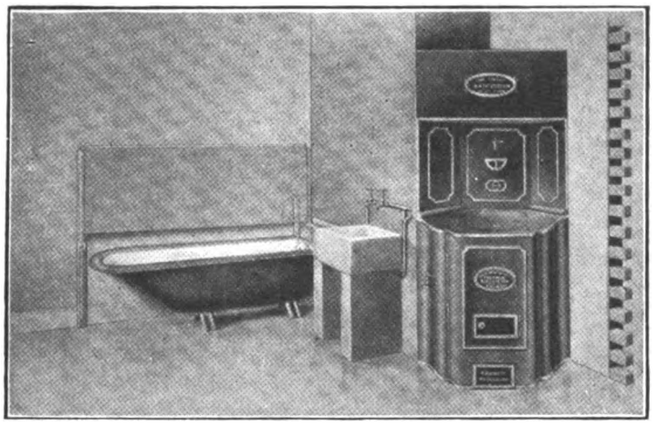
If I am right in my contention that in this effect of the Death Duties is to be found the most efficient cause for the depression in the production of the highest works of art, it is to be hoped that an enlightened Government will see its way to remedy such a defect by an amendment to the

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Act, which leaves all works of art produced in this country free from taxation, at least for one generation succeeding that of the purchaser or during the length of time in which copyright is now granted. Complete freedom of sale is to be granted as the work is not to be made an heirloom. Such exemption is not only to apply to pictures and statues, but to all works of art, including those of higher industrial art. Of course, I am aware that it is difficult to define what objects are works of art and what are not. A responsible committee or body of connoisseurs might well be entrusted by the State with deciding such questions.

In what I have just said I wish you also to understand that, though I chiefly used pictures and statues to illustrate my point, I in no way wish to limit art to these single manifestations. All superior objects of artistic value, including even beautifully printed and illuminated and bound books, must be included.

We have dealt with the indirect and negative action of the State in pointing out the impedition of art through the Death Duties. Let us now consider the direct and positive action of the State in these matters. What does the State do for the direct encouragement of the highest work in pure art? The only form in which it may expend public treasure is in the one art, architecture, in erecting sumptuous buildings. But are we to leave it only to the speculator and promoter, the rapid acquirer of huge wealth, to strike the keynote of taste in encouraging the purchase of great works of art? He may at best only be egged on by his desire to "go one better" in acquiring an object of antique art because it is unique or unrivalled, or cost so many thousands more than another specimen possessed by his financial rival—and all this with the consciousness that he is buying on a rising market and that five or ten years hence his possession will be still more valuable. Why should not all these public buildings be decorated by the best works of the best sculptors and adorned with frescoes and with pictures by the best painters, as, for instance, the Boston Library in America has been decorated by frescoes of the great masters of our own day? Why should not the furniture and carving, the tapestries and *portières*, the chairs and tables, the caskets, and even the inkstands, which the State purchases for no individual but for the public at large, be illustrations of the best art which our age can produce?

This brings me to another subject, in which I maintain that the customs of an allied trade, or rather of an artistic profession, act in a most discouraging and penalising manner on the production of the highest pure art—I mean the attitude our architects take towards the Fine Arts, towards painting, sculpture, and decoration. But I must leave the discussion of this question for the next lecture.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Reading.—Tuberculosis Hospital. Messrs. Charles Smith & Son, F.R.I.B.A., architects, 164 Friar Street.

CORNWALL.

Coverack.—Proposed workmen's cottages for Helston R.D.C.

Launceston.—Twenty-four workmen's houses.

Penzance.—Cinema, Market Place. Messrs. Cowell & Drewitt, architects.

Torpoint.—Children's Home (£800) for St. Germans B.G.

DERBYSHIRE.

Buxton.—Premises for Manchester and County Bank.
Natural Baths: rebuilding (£15,500).
Church, Dale Road.

Derby.—Workhouse: infirmary (£35,000).

Heanor.—Public House, Church Street, for Notts and Derbyshire Tramways Co.

Ilkeston.—Public Baths.
Post Office.
Council Schools, Hallam Fields.

DORSET.

Bridport.—Cottage Hospital.

DURHAM.

Washington.—Working-class houses (£12,200).

ESSEX.

Braintree.—Bungalow, Skits Hill, for Mr. G. H. Few.
Six cottages, Notley Road. Mr. A. G. Wicks, builder.

Brightlingsea.—Bungalow, the Rope Walk, for Captain Underwood.
The "Rose Bud" Inn, Hurst Green: additions and alterations, for Messrs. Daniell Bros., Ltd.
No. 44 Church Road, for Mr. G. H. Chamberlain.
No. 27 Sydney Street: additions for Mr. A. Skinner.
Workshop: extension for Messrs. Aldous, Ltd.

Chelmsford.—Two houses, Swiss Avenue, for Mr. H. Love.
Eight houses, Rectory Lane, for Mr. T. G. Gozzett.
Two houses, Broomfield Road, for Mr. A. E. Faircloth.

Hornchurch.—Public Offices and Council Hall (£850).

Maldon.—Proposed Sanatorium at Mayland (accommodation for 450 persons in all).

Rochford.—Four cottages, Stambridge, for R.D.C.

Southend-on-Sea.—Electricity sub-stations, Leigh and Thorpe Bay (£30,000).

GLOUCESTERSHIRE.

Bristol.—One hundred and thirty-six workmen's houses, Parson Street (£22,800).

KENT.

Maidstone.—Electricity works: Offices, &c. (£2,000).

LANCASHIRE.

Ashton-in-Makerfield.—Carmel Welsh Chapel, Bolton Road: rebuilding. Mr. L. W. Williams, architect, 410 Park Road North, Birkenhead.

Atherton.—Billiards Hall, Market Street, for Messrs. W. Holt, Ltd.

Blackpool.—Six houses, Broughton Avenue, for Mr. W. Watson.
House, King George Avenue, for Mr. W. Squelch.
House, Kirkham Avenue, for Mr. J. Duckworth.
House, Salthouse Avenue, for Messrs. Seed & Stead.
Six houses, off Layton Lane. Mr. J. Garside, builder, Layton Lane.
Six houses, Dutton Road, for Messrs. Kerfoot, Chadwick & Holt.
Nine houses, Gainsborough and Manor Roads, for Mr. W. Clarkson.
Six houses, St. Anne's Road, for Mr. T. Fenton.
Four houses, Henry Street, for Mr. J. G. Harrison.
Three houses and one shop, Broughton Avenue and Layton Lane, for Blackpool Industrial Co-operative Society.
Printing works, Coleridge Road, for Messrs. Maxwell & Co.

Bolton.—Billiards Hall, Church Gate, for Mr. W. Rigg.
Premises, Bradshawgate: extension for Bolton Garage, Ltd.
Eight houses, off Moorside Avenue, for Mr. A. Dickinson.
Twelve houses, Lonsdale Road, for Mr. J. Uttley.
The Deanery, St. Edmund Street: alterations for Dean Averdonk.
Offices, Lostock Junction Lane, for Messrs. W. Heaton & Sons.
"Gilnow Arms" P.H., Deane Road: alterations for Messrs. W. Tong & Sons.

Bury.—Proposed baths and washhouses, Blackford Bridge.

Darwen.—Public baths: rebuilding (£6,600).

Davyhulme.—Works extension (£30,000) for Manchester Corporation Rivers Committee.

Patricroft.—Picture house. Messrs. Thornley Bros., architects, Library Street, Wigan.

Preston.—Sunday School, Ashton-on-Ribble. Mr. W. H. Matley, architect, 14 Ridgefield, Manchester.

LINCOLNSHIRE.

Lincoln.—Working-class dwellings, Wragby Road.

Spalding.—Thirty workmen's houses (£6,500).

Sutton Bridge.—Four pairs of Council houses (£2,100).

NORTHUMBERLAND.

Morpeth.—Cinema. Mr. S. H. Lawson, architect, Emerson Chambers, Blackett Street, Newcastle-on-Tyne.

STAFFORDSHIRE.

Burton-on-Trent.—Children's Home. Mr. J. Holt, A.R.I.B.A., architect, 9 Albert Square, Manchester.

Leek.—Infectious Diseases Hospital for twelve beds. Mr. W. Walley, architect.

SURREY.

Kingston-on-Thames.—Shops, Clarence Street. Mr. R. L. Pierce, architect, Surbiton Villa, Surbiton.

Sutton.—Eight houses, Meadowside Road, Cheam, for Messrs. P. V. Windebank & Co.

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Canadian Trade!

Referendex

TORONTO, CANADA.

NATURE OF PUBLICATION.

The text of Referendex consists of construction data and specifications covering every department of building construction, information the architect and engineer must have. No effort is made to present a treatise on any subject. Such is properly the function of the text book. We assume that the user knows his business and our aim is, then, to provide a convenient and complete memorandum of the working data of construction and, where possible, general specifications or specification clauses following the best modern practice. Great care is taken throughout to make the text reliable. A bibliography concludes each section.

The text is separated into departments, and each section is correlated with the advertising of companies or individuals from whom the product dealt with may be purchased. Such advertising is the natural supplement of the purely technical when, as in REFERENDEX, it shows the extent to which theory may be carried into practice. Each advertiser is asked to prepare his copy in such a way as to impart a maximum of information concerning his products, emphasising the utilitarian aspect of the book, so that the user is free to make his selection of materials from our pages on the merits of the products.

USEFULNESS.

Utility is the master-key of modern business, and utility is the fundamental of REFERENDEX.

No structure is ever planned without recourse to various technical data and related advertising, and until the advent of our publication reference was necessary to many sources of information and a multitude of catalogues if an intelligent design was to be attained.

Which is logical: to secure required information from one volume systematically arranged and thoroughly indexed for ready access to every department, or to use many separate works of doubtful convenience and a never complete library of catalogues?

Obviously the combining in one volume of the essential data concerning each branch of work makes for the convenience and pleasure of the user. And it is in this combination of the text book and the catalogue that REFERENDEX is unique. Modern architectural practice demands not only a knowledge of the theory of construction, but an intimate knowledge of the many patented and manufactured materials and appliances which constitute so important and an ever increasing part of all building. Here again REFERENDEX holds value for its readers in the wide range of the subject matter of its advertising.

REFERENDEX vs. CATALOGUES.

Those who are familiar with the average drafting room know with what an astonishingly meagre supply of catalogues the design of a building is sometimes worked out. This is possible because there are a number of very common materials which may be used in almost any building. But immediately the designer has a wish to bring his work in line with the modern trend, he becomes dependent upon the advertising of periodicals for information relating to the newest materials and processes.

A catalogue which is not kept is worse than useless—a catalogue kept, but forgotten, is nearly useless—a catalogue kept, remembered, but lost in a pile of others, is a nuisance—a catalogue in use is worth more than its weight in gold. The chances of uselessness, however, are high. They are further increased by the fact that very few firms can indulge in broadcast circulation.

This, then, is the "catalogue problem." It is solved by REFERENDEX. Unlike catalogues and literature, an announcement in it is not publicity for a short, indefinite period. Our publication reaches 3,000 architects, engineers, builders and contractors. It is kept by these 3,000 members of the building interests for 365 days. Kept because it is a limp-leather covered hand-book which is a veritable treasure house of information pertaining to their business.

REFERENDEX circulation is positively definite. REFERENDEX is too big and handsome to get lost on the shelves. REFERENDEX is not so big as to be unwieldy. REFERENDEX is indexed and cross-indexed. Its information is as accessible as a book can make it. In short, our publication does most of the work of the ideal catalogue, and at a much lower cost.

EASE OF REFERENCE.

The size of our publication makes it an ideal one for its purposes. Cumbersome volumes can never find a place on the drafting table. They may offer the advertiser a large page for the display of his announcement, but in doing so defeat their own object, which is utility in the designing room. A work of this nature to be practical must be of a size allowing it to be in active use. An architect working out plans and specifications wants his information where he can refer to it instantly. This demands a volume of compact size. REFERENDEX, an ideal size, 11 inches by 7 inches, allows it to become part of the actual equipment of the office.

OUR ORGANISATION.

In every organisation the policy which governs its attitude toward those with whom it deals is the determining factor in its success or failure. The policy of REFERENDEX COMPANY, LIMITED, is broad, founded on the basis of giving more than the actual contract calls for. The possibilities of our organisation have been carefully considered. We have got on an elevation and judged results in the aggregate rather than in the individual case. Every assistance and service possible is rendered our advertisers and the users of our publication.

Every department of the organisation is in charge of practical, experienced men—men qualified by special fitness to handle the work to which they are assigned. The publication is conducted without fear or favour. All advertising copy is subject to the approval of the publishers. Users are assured that to the best of our knowledge and ability nothing is advertised in our pages which is not as represented.

LOW COST.

The amount of investment in any advertising should be one of the determining factors, and in this respect REFERENDEX is splendidly situated. Our rates are lower, considering the quality and duration of circulation, than those of any medium reaching the building interests. These rates mean a page announcement can be placed before each of the desirable individuals and firms who use REFERENDEX at a cost of two cents each. The more pages the lower the rate.

This is lower than the cost of one letter, and considerably less than it would cost to have the same matter printed and sent out. On this basis the user of our publication would need to read an advertisement only once to give the advertiser the publicity obtained from a letter or circular. Announcements in REFERENDEX are, however, referred to many times by the users. Our manual remains as a valued work in their offices every day in the year. Dollar for dollar of advertising values it is by far the best publication in its field in Canada.

GILBERT WOOD & CO., LTD., Publishers, 6-11 Imperial Buildings, Ludgate Circus, London, E.C.

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ENGLAND—*continued.*

WARWICKSHIRE.

Birmingham.—R.C. Church, Aston. Messrs. Harrison (F.R.I.B.A.) & Cox, architects, 109 Colmore Row.

Coventry.—No. 55 Hill Street: alterations for Children's Home. Mr. T. F. Tickner, F.R.I.B.A., architect, High Street Chambers.

Rugby.—Boot manufacturer's premises. Messrs. Bridgman (A.R.I.B.A.) & Bridgman, architects, Devon Chambers, Palace Avenue, Paignton.

WILTSHIRE.

Devizes.—P.M. Schools. Mr. A. J. Randell, architect, 16 Market Place.

YORKSHIRE.

Barnsley.—Workhouse: four cottages (£900).

Carcroft.—P.M. Church, Highfield.

Eccleshill.—Congregational Church, Fagley (£2,000). Mr. J. H. Bakes, architect, Calverley Chambers, Victoria Square, Leeds.

Edlington.—P.M. Church.

Maltby.—P.M. Church.

Ossett.—U.M. Sunday School, Gawthorpe. Messrs. Thornton & Son, A.R.I.B.A., architects, Bond Street, Dewsbury.

Sculcoates.—Workhouse: infirmary, Grove House estate.

WALES.

Aberystwyth.—Workmen's dwellings (£2,600).

Loughor, Upper.—Council School. Mr. W. H. Marsh, architect, Angel Street, Neath.

Pontypridd.—Proposed Fire Station.

Wrexham.—Public Hall and Institute, Acton Garden Village. Messrs. Dickens-Lewis & Haymes, architects, Pengwern Chambers, Shrewsbury.

SCOTLAND.

Aberdeen.—Free Church: additions. Mr. W. E. Gauld, F.R.I.B.A., architect, Union Street.

Alloa.—Y.W.C.A. Institute and Temperance Restaurant, High Street.

Glasgow.—Electrical sub-station, Clydesdale Ironworks, Cardonald, for Messrs. Cockburns, Ltd.

Fire-engine house, Linthouse, for Messrs. A. Stephen & Sons, Ltd.

Proposed Fire Station, Wallace and Centre Streets, South Side, for the Corporation.

Gourock.—Banking premises, Bath and Kempock Streets: rebuilding for National Bank of Scotland.

Musselburgh.—Elementary School for 700 places. Mr. W. Constable, architect; also

Grammar School: extension.

IRELAND.

Dublin.—Picture Palace. Mr. T. F. M'Namara, architect, 192 Great Brunswick Street.

PATENT SPECIFICATIONS PUBLISHED SEPTEMBER 3, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 13,096. June 5, 1913.—Augusto Bontempi, Coytesville, New Jersey, U.S.A. Changeable key-locks.

16,040. July 11, 1913.—A. F. Berry, 27 Woodville Road, Ealing. Supply of electricity for heating, lighting, and other purposes.

16,765. January 22, 1914. —Frederick Sirett, Little Kimble, Bucks. Acetylene gas generators.

18,229. August 11, 1913. Dated under International Convention August 15, 1912.—Adolf Ohman, Drottninggatan 3, Stockholm. Method of and means for moulding concrete walls provided with air chambers.

18,487. August 14, 1913.—Charles Smith, "Tynwald," Birdhurst Rise, South Croydon. Fire indicators or alarms.

18,635. August 16, 1913.—H. R. Marsden, Ltd., Soho Foundry, Leeds, and Neil Taylor, The View, Roundhay, Leeds. Plant for making tar macadam.

18,982. August 21, 1913.—F. W. Flynn and Francis Marley, 3 Cedars Road, Clapham Common, S.W. Apparatus for controlling the lighting and extinguishing of gas.

20,178. September 6, 1913. Dated under International Convention March 1, 1913.—T. C. Evans, 5 Terre Haute, Vigo County, Indiana, U.S.A. Locks.

28,296. December 8, 1913.—F. J. Leather, 114 Merton Road, Wandsworth, S.W. Apparatus for moulding, casting, and building concrete and the like.

28,934. December 15, 1913.—Pieter, Dirk, Johannes & Nicolaas van den Berg, 4 Stationsstraat, Vlaardingen, Netherlands. Machines for the cutting of window sash bars and the like for cross joints.

409. January 7, 1914.—Charles Showell, Stirchley Brassfoundry, Stirchley, Birmingham. Fanlight openers and the like.

3,717. February 12, 1910. Dated under International Convention August 6, 1913.—Joel Frankinet-Kirby, 82 Boulevard de la Revision, Brussels. Machines for bevelling glass plates.

4,805. February 24, 1914. Dated under International Convention February 26, 1913.—Albert Abraham, 19 rue de l'Etat-Tiers, Liège, Belgium. Making soil or rocks impervious.

5,787. May 19, 1914.—R. P. Fisher, 58 Brincliffe Edge Road, Sheffield. Sanitary splash guard for water closet seats.

7,002. March 19, 1914.—Daniel David, 1A Severn Road, Cardiff, Glam. Holders for sliding sashes.

9,481. April 16, 1914.—Thomas Glover, Gothic Works, Angel Road, Edmonton, N. Construction of water heater.

10,372. April 27, 1914.—Oscar Henrickson, Pinewood, Santa Rosa, Florida, U.S.A. Pipe and bolt pullers.

10,781. May 1, 1914.—R. W. Urie, "Hill Croft," Hill Lane, Southampton. Means for connecting pipes or conduits.

12,902. May 26, 1914.—E. K., W. P. & S. J. Bedington, 45 Northwood Street, Birmingham. Window sash balances.

13,181. May 29, 1914.—Joseph Clough, 2 College Street, Accrington, and Edward Westwall, 402 Union Road, Oswaldtwistle, Lancs. Barless fronts for kitchen fire grates.

14,769. June 19, 1914.—H. J. Spratt, Ensign Works, Clifford Road, Walthamstow, and Houghtons, Ltd., 88 High Holborn, W.C. Drawing boards.

26,283. November 15, 1913.—Arthur Pullen-Burry, Rectory House, Sompting, Worthing. Mechanism relating to the opening and closing of windows.

27,027.—November 24, 1913.—C. H. Patek, Brainerd, Minnesota, U.S.A. Domestic dampers for stove or furnace pipes.

27,338. November 27, 1913.—H. P. Youngman, Woodville, St. Luke's Road, Bournemouth. Manufacture of machine-made bricks and the like.

28,795. December 13, 1913. H. C. Duckworth and the Twelve-Hours Stove Syndicate, Ltd., 258 Vauxhall Bridge Road, Westminster, S.W. Water heaters.

1,012. January 14, 1914.—E. R. Palmer, 17 Wickham Road, Beckenham, Kent. Rain-water, ventilating, soil, and the like pipes fixed to the exterior walls of buildings.

1,266. January 16, 1914.—Lucien Linden, 117 Rue Belliard, Brussels. Process of and apparatus for purifying sewage or any other liquid.

8,484. April 3, 1914.—Dated under International Convention September 26, 1913. L. S. Lachman, 47 West Street, New York, U.S.A. Sash or frame construction.

11,218. May 6, 1914.—C. W. Cayless, Havelock Terrace, Battersea Park Road, S.W. Construction and arrangement of expanding ladders.

11,555. July 30, 1913.—G. J. Money, 70 Laverton Street, N.W. Portable carriage for chemical fire extinguishers.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The War on German Trade.

SIR,—We have noted with interest and approval the influence which is being exercised by the Press and others to ensure the adoption of British goods, and the campaign which has been commenced cannot fail but be to the ultimate advantage of British industries generally. But it is very necessary that every precaution should be taken that wrong conclusions (based on pure assumption or the statements of

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That all work entrusted to this Company means employment for British Subjects and use of British Materials only.

Note 1.—Mr. J. F. Kleine, of Berlin, has been a Director of the Company up to the time war was declared; but being an "enemy" resident in Germany he cannot act in the capacity of Director during the war.

He at no time took any part in the management of the Company, but contracted in the Deed of Sale of the British Patents to continue to give the Company the full benefit of all improvements he might at any time devise, as also to act as Consultant on any questions referring to construction, acoustics, chemistry, and other technical questions upon which the Company desired his advice.

Note 2.—The total sum remitted to "enemy" shareholders since the Company was formed amounts to **£704,** and nothing, of course, has been or will be remitted during the war.

Note 3.—**The total sum paid to British Shareholders, British Workmen, British Directors, British Employees, and to British firms for British Materials amounts to £348,000.**

LONDON: August 15th, 1914.

KLEINE

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interested parties having ulterior objects in view) should be avoided.

It has come to our knowledge that the statement has been made, or the impression exists, that this company is to some degree under German influence, and in this connection we would state:

1. This company has carried on business in England for upwards of sixty years. We were established at Millwall prior to 1854, and a few years later we moved to the site of our present premises which, with the progress of years, have been enlarged and improved.

2. There is not a single German connected with the company either as shareholder, director, or employee. All are British born, bred, and educated, with the exception of a few experienced Italian asphalters who are employed for special work, and which plan is adopted by all the responsible houses in the asphalte trade.

3. There is not a penny of German or other foreign capital in this company, the whole of the shares being held by English-born men and women resident in this country. Further, neither this company nor any member thereof has any connection with German or other foreign concerns.

4. For many years past we have been contractors to H.M. Government for various materials, such as roofing felt, hair felt, asphalte, &c., and for the years 1910-11-12 we were successful in securing the War Office and Admiralty contract for asphalte work, the execution of which necessitated the admittance of our representatives and workmen to practically every fortification and depot of the War Office and Admiralty in the British Isles where our work was required, and to which foreigners are not admitted. This contract was given to us after the usual exhaustive inquiries in regard to the constitution of our company had been made by the War Office authorities.

5. All goods supplied by us are manufactured here at our works in Poplar.

Possibly your extended experience of our house in itself will substantiate what we are here saying, and doubtless there are many architects, surveyors, and builders some of whom (although very probably now retired) have done business with us over half a century ago.

In conclusion, it might be pertinent to add that on an appeal issued to our factory employees by our managing director (who, we believe, rightly held the view that the seriousness of the present situation had not been fully recognised by, at least, some of our workpeople) several of our single employees have enlisted, the percentage of acceptances being over 80 per cent. of the applicants. Their places are being kept open for them, but in the meantime will be filled by married men, and it may not be necessary for us, ultimately, to dispense even with the latter's services.—Yours respectfully,

ENGERT & ROLFE, LTD.,
C. ENGERT, Managing Director.

Poplar: September 4, 1914.

[Our own connection with the firm of Engert & Rolfe dates back to somewhere about the year 1869.—ED.]

SIR,—Your correspondence columns are interesting reading at this present time. I have been much taken with the letters relating to the support of British manufacturers, and I most certainly intend to employ only British, American, French, or Italian made goods in future. I would like to say British only, but unfortunately I find that your British manufacturer in some instances shows such a lamentable want of enterprise and is so ultra-conservative in his methods that I am, against my wishes but in my clients' interests, compelled to have my orders placed with foreign firms. Germany led in enterprise, and was securing a well-merited reward, but prosperity has driven her mad. What are our manufacturers doing to secure the orders in the building trade? Letters of "Manufacturer" and "Ratepayer" last week are much appreciated. "Manufacturer" wetted my curiosity, so I looked carefully through your advertising pages for a Norfolk address, having, until the last few years, spent a large portion of my life in that delightful county. No Norfolk name or address was there, alas!—Yours &c.,

A NEW SUBSCRIBER.

Our Pencil Supply.

SIR,—The free advertisement which you give to Mr George Rowney in the current issue of *The Architect* might advisedly be supplemented by regular advertising on the part of both Mr. Rowney and of other similar firms. For how many architects are there who know that pencils are manufactured by these English-trading companies?

I have for many years used Hardtmuth's pencils myself, and those made by Faber's and other foreign or foreign-sounding firms are well known. I see that Messrs. Winsor & Newton advertise in your columns, but nothing is said by them as to their own pencils, which I used and appreciated for many years. The public cannot, and will not, go out of its way to seek goods; it is necessary to parade them before our eyes, either by way of printed advertisement or by samples forwarded. I might mention the "Venus" pencil, which has been thus advertised by its American owners.

It is a source of continual interest to me to observe the go-aheadedness of our Trans-Atlantic cousins in this respect, and I should like to see our firms here show similar enterprise and so make a vigorous bid for the patronage of the British public.—Faithfully yours,

T-SQUARE.

London: Sept. 5, 1914.

SIR,—I was much interested in reading in your "Notes and Comments" this week Mr. George Rowney's views about our lead-pencil supply. I, too, like yourself, have not found it necessary to use German or Austrian lead pencils, but have found quite satisfactory the productions of an American firm, who have well advertised them. Why does not Mr. Rowney's firm also bring their lead pencils prominently before our notice? I know them as manufacturers of excellent water-colour material, but it has not occurred to me that their lead pencils might also be excellent. Another instance, I am afraid, of the usual British manufacturer's attitude. He expects customers to find him out, whilst his foreign competitors advertise in your own and other journals and let us know that they are prepared to sell us what we want. If Mr. Rowney can make pencils equally good and at the same price—they are not particularly cheap—as foreigners and give us bold advertisement thereof he will gain the custom of yours, &c.,

A BRITISH DRAUGHTSMAN.

Architects Enlisting.

SIR,—Your readers will no doubt be interested to know that recruiting for the Royal Engineers and other branches of his Majesty's Forces of architects and surveyors and their friends has continued very briskly since your last issue. We have good news of those already joined who hope to welcome many more drafts to their ranks in the near future.

Although the Royal Engineers temporarily stopped recruiting at the beginning of this week on account of the rush of recruits, they are now enlisting again, and men wishing to join should send in their names at once. Our next draft will meet here at 5 P.M. on Friday, the 11th, and present themselves for medical inspection at 8.45 the following morning.—Yours faithfully,

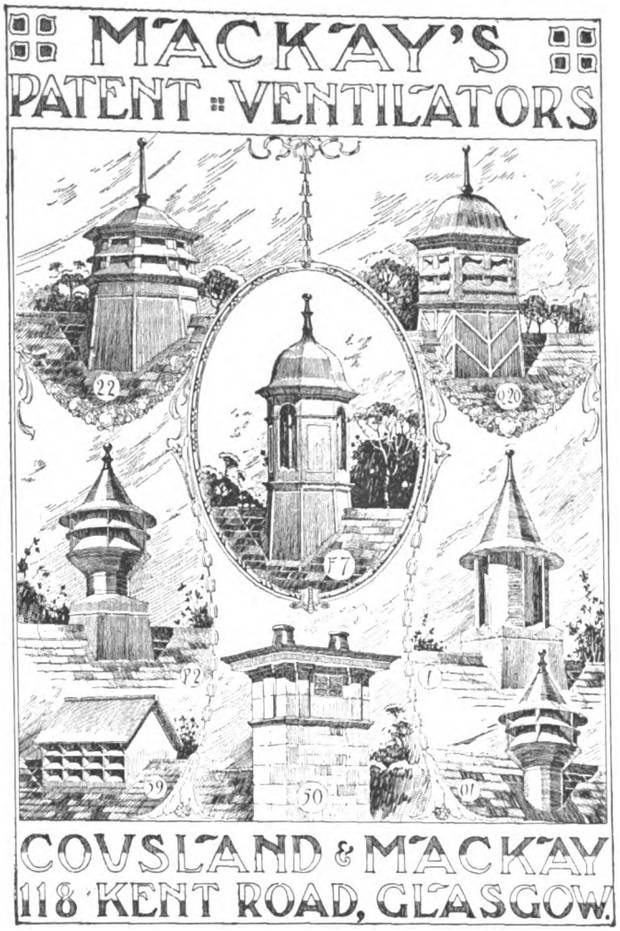
ALAN POTTER,
Hon. Sec. A.A. War Service Bureau.

September 9, 1914.

A DEPUTATION from Berwick Town Council had an interview in London last week with Sir George Gibb and the Road Board in reference to the proposed new bridge across the Tweed at Berwick, the cost of which is estimated at between £80,000 and £100,000. Preliminary borings have been made by the Road Board, with whom the scheme originated, and it is expected that in order to minimise unemployment arising from the war they will proceed with the scheme at a very early date. It is believed that Berwick would have to pay for the upkeep of the bridge, in addition to contributing towards the cost of erection.

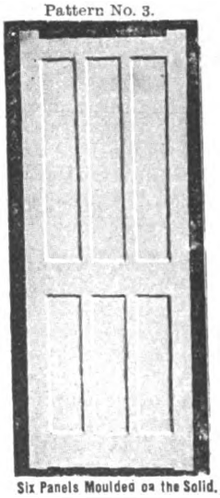
THE Housing Committee of the Liverpool Corporation, in order to cope with local unemployment, are going to ask immediately for tenders for the rebuilding schemes to which they are pledged in the Gore Street, Jordon Street, and Sparling Streets areas. Sanction for the expenditure of about £25,000 on these schemes has already been obtained. The committee have further instructed the surveyor to facilitate the acquirement of the remaining sites necessary for the carrying out of the projected schemes in the following areas: Prince Edwin Street, Mason Street, Penrhyn Street, Rathbone Street, Blenheim Street, Saltney Street, and Dublin Street extension. These schemes will entail an approximate outlay for building of £120,000.

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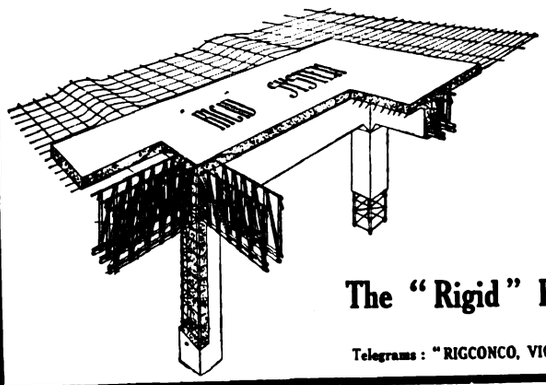
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THE ARCHITECT

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MURAL PAINTING.

IN a vague, indefinite sort of way we generalise in this country about the association of the three forms of art—architecture, sculpture, and painting—as all being essential, we do not say equally essential, in the production of a perfect, or even a great, building, and in the Royal College of Art some attempt is made in the instruction of its students to train artists or art teachers who shall evolve designs including in one happy combination architecture, sculpture, and painting. It cannot, however, be said that so far as the work of the students is concerned their productions indicate any high degree of accomplishment still less of success in the difficult task, to a modern, of designing a building in which each form of art, architecture, sculpture, or painting shall be of high quality in itself and harmonious with its fellows. The reason is not far to seek. The students fail to achieve the standard of a master, primarily, because they are students, but also because in a large degree each of them has already determined in his own mind not that he will aim at being an artist, but that he will specialise in some definite branch of art work or, worse still, intends to be an art master, a teacher rather than an executant, a sign-post rather than a pilgrim to a definite goal. The sign-post stands at the parting of the ways; he has to direct one tyro towards becoming an architect, another towards the design of wallpapers, or cretonnes, or some other specialised branch of artistic industry. He cannot devote himself to that concentration on the technique as well as the principles of art which is imperative for the accomplishment of work worthy of recognition as successful art.

There is, moreover, for the unfortunate art student of the present day so vast an accumulation of past masterpieces in buildings, all of them, in some degree or other, worthy of study, that he is in a very different position from a young Pheidias or Ictinus or a pupil in a cinque-cento bottega, whose range of study was practically limited to the work of his master and his contemporaries. It is an open question whether our modern system of education in schools, colleges, and universities is the best adapted to the training of an artist who is to produce a truly beautiful building. So much of the novice's time and energy are spent on archæological study that he has no opportunity or insufficient opportunity for adequate training in the highly specialised technique of even one, not to say the whole, of the various forms of art that must be combined to make the perfect building.

The architecture of a building of which sculpture and painting are to form adequate components is a very different thing from that of a structure from which the sister arts are absent. It is not sufficient for the architect to provide merely a frame around blank spaces, which, as far as his conception goes, may be labelled "carving," "sculpture," or "picture." Neither is it sufficient, on the other hand, that other artists should provide and fix carvings, sculpture, or paintings regulated only by the dimensions of the spaces left for them by the architect. The work of these other artists, the sculpture or the painting that is to form an adequate part of a building, must be a very different thing to the isolated model of the studio or the easel picture. In the training of the sculptor or the painter who is to take his part in the production of a truly great building our teachers are still very much on the wrong track. The student is taught in a school alongside of and similarly to those who will not specialise in building art. He has a long journey still to travel when he leaves the school and starts work on a building. He must unlearn a great deal and learn, by experience and failure, a great deal more. Instead of being trained in a school, without, usually speaking, any clear intention as to whether, by some accident or other, his future career is to be that of an easel painter or a mural painter, satisfactory results can only be attained by his education, at a very early stage, being pursued as an apprentice, pupil, or assistant to a master in that specialised form of art to which his ultimate career is to be devoted.

This being so, we are bound to inquire what inducement there may be at the present day for any aspirant to devote himself, irrevocably, to the career of a mural painter. In our own country we fear that it must be admitted to be very small. Mural painting, as an integral part of a building, is scarcely recognised or even considered as a practical entity in the minds of the British public. In any case, it is likely to be limited to public or semi-public buildings, Parliament-houses, town halls, libraries, churches. The erection of a public building is placed in the hands of a committee or council. These men are presumably chosen for their business ability, their integrity, and their public spirit, and in most cases they prove their possession of these attributes. But also in most cases they differ absolutely in their point of view on this particular matter from the private collector. The collector means to have the best art, but he knows that for the best he must lavish money, though he is determined that intelligence shall so guide his lavishness as to resolve it into a future asset and profit. The buyer and collector of easel pictures is one of two things—either he is a cultured man and lover of art, or else he is one who wishes to become cultured and to be a patron. In the first place he relies on his own culture, in the second on the culture of friends or experts who teach him how and what to buy. But, in either case, he studies the intrinsic as well as the market value of the pictures, and a considerable price asked and paid adds zest to his action and prestige to his collection.

The procedure which occurs in relation to mural painting is exactly the contrary in almost every case. The committee or council who control the erection and completion of a public building may wish to have the best art and demand it, but they desire even more strongly not to expend much of the people's money for it. Able and honest though they may be in business and in the general conduct of public affairs, they do not

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understand art. They thoroughly understand economy when it means saving money by not expending it; when, for instance, it amounts to paying £200 to B instead of £500 to A; but they cannot understand the economy which avoids the waste involved in paying B £200 for almost worthless creations, instead of giving £500 to A for something good. Hence the natural tendency of a committee or council is to reduce the amount spent, and to accept the lowest tender. This line of thought may be well enough with regard to the material things of a building—the brick and the stone, the concrete and the steel, of which the quantity and quality can be assured by the help of policemen, architects, and clerks of works—but it is fatal to the attainment of the best in art and to the devotion of able students to a career restricted in its opportunities by such a line of reasoning.

Mural painting being insufficiently recognised as an essential component of a fine building, it necessarily follows that in determining the amount to be spent a committee or council will base their decision on a comparison of the cost of buildings of a certain size already erected rather than of the level of beauty that they exhibit. And having determined the amount to be spent, indispensable necessities and more or less dispensable conveniences will be first allowed to absorb as much as they need of the total amount, and then, if the architect has been very economical in his handling of these, there may be something left for mural painting. As things are at present it is only by self-denial and rigid economy in other parts of their buildings that architects can hope to induce public bodies, who may be their clients, to consent to any expenditure on mural painting.

The relation of the architect to the mural painter is an interesting subject for discussion. It is hopeless to-day, we fear, to expect the evolution of an artist who shall both prescribe and execute, with assistants, of course, all the art work of a great building. All forms of art are now too highly charged with their own difficulties of technique to escape the necessity of specialisation, and sculptors and painters must of necessity be collaborators of the architect, whom they must regard as commander-in-chief, leader, designer, and creator of a whole, which they are to enhance as a whole by their art, and they must see in him the planner of interrelated parts, whose interrelations they must help not hinder.

Unsatisfactory as at present is the position of mural painting in the estimation of the British public, it is gratifying to know that the example of France in this matter is being followed, as in other paths of art, by the people of the United States, and that opportunities are there given and are being grasped by the artists of that country for mural-painted decoration of a high order. Of these some illustrations may be found in a book* by an American mural painter, Mr. Edwin H. Blashfield, recently issued by the house of B. T. Batsford, Ltd. Mr. Blashfield's book is well worth reading by every one who has any interest in the decoration of buildings, since he treats in admirable fashion of all the many influences that affect the successful application of mural painting to the consummation of a fine building. We cannot better express the object of the book than by quoting from its foreword: "Mural painting may safely be called the most exacting, as it certainly is the most complicated, form of painting in the whole range of art; its scope includes figure, landscape, and portrait; its practice demands the widest education, the most varied forms of knowledge, the most assured experience. Save by the initiated it is apt to be misapprehended as a form of art at best demanding little but arrangement, fancy, lightness of hand, at worst as a commercial product calculable as to its worth by the hour and the square foot. It is the object of this book to try to make a fair statement of the real demands of mural painting, and to endeavour to suggest its real value."

* *Mural Painting in America.* By Edwin H. Blashfield. (New York: Charles Scribner's Sons. London: B. T. Batsford, Ltd. 8s. 6d. net.)

NOTES AND COMMENTS.

IT is gratifying to note the tenour of a report issued by the Board of Trade on the state of British industries after one month of war, even though we may have some doubt as to whether the general situation is maintained in the building industry. Inquiries addressed by the Board to nearly all the principal manufacturers show that employers covering 75 per cent. of the workpeople included in the returns received have not been specially affected by the war. These employers report since the middle of July a total reduction of staff of only 1.3 per cent. The employers of the remaining 25 per cent. report they have been affected by the war, and have reduced their staff since the middle of July by 27 per cent. The two industries most concerned are the cotton industry and the construction of vehicles, each of which shows a contraction of about 19 per cent. in numbers employed. In the cotton industry another 40 per cent. are working short time, which can only in part be attributed to the war. The general conclusion is that though at the moment there is a contraction of employment as a result of war, this contraction has been met to a very marked extent by a reduction of hours instead of a reduction of staff. Ninety-three per cent. of the workpeople engaged in production are still wholly or partially employed, and of the contraction of 7 per cent. at least two-thirds represents men who have left for military or naval service. Thus the percentage of workpeople wholly unemployed, including women, has only increased by little more than two.

Major Baring in the House of Commons asked the Chancellor of the Exchequer what was the position of builders with reference to contracts entered into before the war; if, in view of the increased cost of material, they were bound to complete the work at a figure fixed before war was contemplated; and whether the moratorium in any way affected their position.

Mr. Lloyd George replied that the moratorium in no way affected the contracts except so far as it postponed any payment due thereunder.

Rubber paving has undoubted advantages in respect of the prevention of noise. It is satisfactory to know that it also possesses the merit of durability. At St. Pancras the arches leading to and from the Midland Station are paved with rubber. Mr. Wright, the clerk of the works to the hotel, says that the roadway is a great success. It has been in use now for forty years, and it is only during the last month or so that it has needed repair of any kind. The initial outlay was about £1 a foot.

There is a bungalow settlement on the sea-shore at Moreton of a very free-and-easy character. Proceedings in connection therewith have been taken at the Birkenhead County Magistrates' Court, when Walter R. Andrews, 40, Walton Village, Liverpool, was summoned on four informations for breaches of the by-laws of the Wirral Rural District Council. The informations were (1) that the defendant did not deposit plans of the proposed building, (2) that he did not give notice to the surveyor of the completion of the building, (3) that the materials of the building were not in accordance with the by-laws, and (4) a penalty was asked for a continuing offence.

Mr. W. Webb Shennan, surveyor to the District Council, admitted that there were seventy or eighty bungalows at Moreton in respect of which no plans had been received. None of them complied with the by-laws.

Mr. Singleton, for the defence, submitted that the bungalow was actually completed in September last year, and, therefore, the summons was not in order, as it had not been brought within the six months' limit. He also contended that the bungalow was not a building which could be designated under the Council's by-laws, but was a portable one.

The magistrates found for the Rural District Council

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"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.



TRINITY HOUSE, QUAY SIDE, NEWCASTLE-ON-TYNE.—From a Drawing by "TOGA"

on the question of the time limit, and imposed a penalty of 40*s.* and £3 costs on the third information with regard to the building materials. They also imposed a penalty of 5*s.* per day for twenty days, and 8*s.* 6*d.* costs on the summons for a continuing offence.

The other two informations were adjourned sine die, as also were informations against another owner pending an appeal.

Letters are regularly being received by us from firms who do not advertise in our pages headed: "War Items," "Keep the Flag Flying," "Securing German Trade." One firm sends us even two or three communications per week. This Journal is desirous to assist one and all in an endeavour to further the interests of the building and allied trades, but we ourselves are "keeping the flag flying" at some considerable expense, and we most certainly must ask our friends to bear in mind that our advertisement columns are open to their service at all times, and that they will not find us lukewarm on their behalf if they in return support us. There are firms who send us paragraphs which are purely in the nature of an advertisement, and we would suggest to them that it is hardly fair to expect us to insert these announcements gratuitously.

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WAR ITEMS.

IN connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received by cable from H.M. Consul-General at Shanghai (September 8):—

"Business may be said to be more or less at a standstill. The situation is governed by the export trade, which is held up; and money is tight principally on account of this stagnation. The Germans are accepting export cargo, which is being deposited in godowns, but Chinese sellers are at present without payment. This fact will undoubtedly react in favour of British interests."

The large number of our readers who are amateur photographers will be interested in the following particulars issued by the Commercial Intelligence Branch of the Board of Trade:—

Printing Papers.—Germany is probably the chief producer of collodion printing paper, ordinary and self-toning, but the bulk of the trade in printing papers is in those of the bromide and gaslight class. In these Germany does not compete in this country, except in the cheaper grades, in which it cuts prices. It is believed to do a very considerable trade, again at cut rates, in all classes of printing paper abroad, and particularly in the East.

Dry Plates.—English plates hold a firm position both here and in the German market, while German plates have done little more than obtain a foothold here, chiefly on the strength of lower prices.

Cameras.—The bulk of the German-made cameras sent to this country and to British possessions are of the folding and box metal (or part metal, part wood) type, largely pressed metal work, which is marketed here at low prices. Of late years two important British firms have successfully met German competition in this section of the trade.

In high-class cameras of the folding focal-plane type German firms have done considerable business here, though many British firms now manufacture this class of goods.

In wooden cameras, used on a tripod, that is, ordinary stand cameras, German competition here is practically nil.

Lenses.—The notable optical firms of Zeiss, Goerz and Voigtlander occupy a strong position, enjoying a greater reputation and possibly greater sales than British firms whose products are of equal, if not better, quality. German makers of a lesser reputation have done much in the supply of lenses, &c., of somewhat lower grade.

Shutters.—The most popular type, the diaphragm or between-lens shutter, has hitherto come largely from Germany. One Munich firm is said to be owned by an American optical house, which is a great producer of the same class of shutter. English firms have done very little in manufacturing these shutters.

Miscellaneous Accessories.—In goods of metal and glass chiefly, performing various services in photography, Germans have hitherto been large suppliers. In certain cases they have made small accessories to a supplied design for sale here under a British name as the speciality of a British firm. Among such articles may be mentioned metal developing tanks, printing frames (wood), clocks, draining and drying racks, electric lamp fittings, scales, light-filters, and view-finders.

Chemicals.—The numerous fine chemicals used in photography are in many cases made exclusively in Germany—*i.e.*, organic developers, such as pyro, metal, hydroquinone, amidol, and certain inorganic salts such as bromide of potassium.

Photo-Mechanical Printing.—In collotype, litho, photo-litho and chromo-litho printing, probably the bulk of the work done from photographers' originals in this country in the way of view cards is Bavarian or Austrian work. Some few Bristol firms do collotype work equal to the Continental, but there would seem to be a willingness on the part of the German and Austrian firms to undertake small jobs at a given price which secures work at the expense of British firms in the same line.

The Architectural Association Volunteer Training Corps, as originally proposed by Mr. Maurice Webb, is now being formed in connection with the Central Volunteer Training Corps Committee, of which Lord Desborough is chairman. This committee has received permission from the War Office to encourage and create training centres throughout the kingdom for men who are ineligible for Lord Kitchener's Army, or other Territorials who are prevented by special circumstances from joining the Forces.

The A.A. Corps, of which the Rifle Club will form the nucleus, is open to all architects and surveyors and members of kindred professions, the only qualification being that they are prevented from joining the Army as at present constituted.

The headquarters of the Corps will be the Central Electric Supply Co.'s Station, Lodge Road, St. John's Wood, where there is ample accommodation for miniature rifle practice, revolver practice, and drill and skirmishing. Members can drill any day of the week except Sundays, and obtain musketry practice likewise, except on Tuesdays and Thursdays. There is an entrance fee of 5s. and a subscription of 2s. a month, but this latter is liable to be increased if the cost of ammunition advances. Rifles and revolvers of service weight are provided for musketry practice at the ranges, with an allowance of 21 rounds of ammunition per day free of charge, and members will be able to purchase further supplies at the range if required. The general equipment of the Corps will depend on private effort to a great extent, but assistance will also be obtained from the Central Volunteer Training Corps Committee.

It is not proposed to limit membership of the corps in any way except as stated above, and Mr. Alan Potter, Hon. Secretary A.A. War Service Bureau, will be glad to receive names of intending members as soon as possible. All applicants should state clearly why they are unable to join the Army, and when enrolled they will be furnished with a special pass to admit them at headquarters.

Messrs. Harris & Sheldon, Ltd., inform us that the number of their workmen and staff who have now joined the Colours is increased to about forty-five, many having joined the Birmingham City Battalion. They are making suitable provision for the wives and families of men who have gone to the front, and will continue to do so as long as the course of business renders it in any way possible, and their situations will be kept open. The trade can guarantee hundreds of married workpeople from any anxiety, or fear of being without work during the coming winter, if they will only send in their season's order—Now. Up to the present they have scarcely reduced the number of their employees at all, except so far as this result has been brought about owing to a number joining the Colours, but as is perhaps only natural, they have been compelled to reduce the time worked from the normal.

THE ARCHITECTS' WAR COMMITTEE.

THE following correspondence has taken place between the Architects' War Committee and the Right Hon. J. A. Pease, P.C., M.P.:—

September 11, 1914.

SIR,—The Royal Institute of British Architects, feeling it to be their duty in this national emergency to arrange for such collective action by the architectural profession as may be found to be desirable, have, with the co-operation of members of other architectural bodies, formed an Architects' War Committee, which is broadly representative of the whole of the profession in the United Kingdom.

This Committee desires to offer to his Majesty's Government an assurance of the loyal and energetic support of

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the profession in any direction which may be found to be practicable and desirable.

It is felt that the Imperial Government is best able to indicate what form of assistance would be of most value to it, and the Committee would welcome any suggestion from the Government in this direction.

The Committee is prepared to furnish information on all matters in which the State may require the services of architects in any part of the United Kingdom during the period of the war, and to give advisory assistance in connection with any scheme of construction which the Government may contemplate in this emergency.—We have the honour to be, Sir, your obedient servants,

(Sgd.) ERNEST NEWTON, P.R.I.B.A.,
Chairman of the Architects' War Committee.

(Sgd.) C. STANLEY PEACH,
Hon. Secretary of the Architects' War Committee.

The Right Hon. J. A. Pease, P.C., M.P.

Whitehall, London, S.W.
September 14, 1914.

DEAR SIR,—I have to thank you on behalf of the Government for your letter of the 11th September, and for the generous and patriotic offer of help made by the Architects' War Committee. I am forwarding your letter to other Government Departments, and if any opportunity of utilising your help arises a further communication will be sent to you.—Yours faithfully,

(Sgd.) JOSEPH A. PEASE.

C. Stanley Peach, Esq.,
Royal Institute of British Architects,
9 Conduit Street, Hanover Square, W.

ILLUSTRATIONS.

THE TOWN HALL, LOUVAIN.

THE picturesqueness of Louvain's Town Hall loses nothing from the method of its presentation by Samuel Prout, from whose "Continental Sketches" our illustration is reproduced.

EAST RUSTON VICARAGE.

THE Vicarage, East Ruston, Norfolk, is being built of brick with tiled roof, the windows having oak frames and leaded casements throughout. The treatment of the study has been carefully thought out, and is a bright sunny room cut off from the rest of the house by double doors, as a parson's study should be a place of quiet and be undisturbed, as the organisation of the parish centres in that room. It has its own lavatory accommodation. There are eight bedrooms. The architect is Mr. Henry S. Sidebotham, and the builders are Messrs. Cornish & Gaymer, of North Walsham.

COTTAGE AT THE BOURNE, SURREY.

THIS cottage, though not large, gives ample space, as the old-fashioned houseplace (which was planned as the central living-room, to catch the sunshine all day) measures 21 feet by 20 feet, exclusive of a large recess. There are folding doors opening into the dining-room, which faces east, and the study also opens from the houseplace, which has a large ingle, and also a stable door to the large paved terrace, where meals can be served in hot weather. The easy staircase, with its dog-gates, leads up from a square hall, which has a gallery over it. There are five bedrooms, bathroom, &c., numerous cupboards, and useful offices. The architect is Mr. Henry S. Sidebotham.

DOORWAY FROM CHURCH OF ST. AUGUSTINE, ANDRIA.

THE cathedral at Andria, a neighbour of Bari, has been rebuilt on the original plan, with the exception of the campanile, which is ancient. The chief interest of the city is therefore in the remains of the thirteenth-century Castel del Monte and the church of St. Augustine, a doorway from which we illustrate.

DOORWAY FROM CATHEDRAL, RUVO.

THIS is another example of the use of lion bases, which is not uncommon in Apulia. The cathedral dates from the end of the twelfth century or beginning of the thirteenth.

UP AND DOWN THE MEUSE.—III.

By A SKETCHER.

THE country between Verdun and Neufchâteau, where we now find ourselves, is prettily varied with wooded hills, streams, and meadows, where the Meuse glides between alder-fringed banks. Beyond Vaucouleurs, a tumble-down village of brown-tiled cottages and fragments of old wall, the valley narrows, and trees of larger growth and park-like plantations give shade from the burning August sun. Unwary pedestrians, desirous of honouring the birthplace of the Maid of Orleans, will leave the rail at Domrémy, and find they have a hot walk over the fields before they reach the little village. Truth to tell, there is not much to be seen at Domrémy. It is a sheltered cluster of houses, with a red-tiled modern church opposite the bridge over the Meuse, which here, as was quaintly remarked, "gets into a mess," and loses itself in an undignified manner among reeds and grass and rubbish, and looks occasionally like a mere duck pond. Then there is the house where the Maid was born and the chamber where she prayed, and some of the wall and the wooden beams of the ceiling are really in place; and over the doorway is a copy, and within is the original, of the curious kneeling statue, in full armour, that Louis XI. had made of her. A likeness, it is said. If so, she was a sensible, simple-looking woman, with a high forehead, rather small eyes, a long upper lip, straight long hair, and also very large hands, and a figure that required full-sized armour "of the period"; but that may be an accident of the sculpture, which is something rude of course. The house is under guardianship of a sisterhood, and is a museum of little trifling reminiscences and excuses for coaxing francs out of the pockets of strangers, whereby to maintain the place in good repair.

Up a steep and stony road through the harvest-fields you may toil to see a heap of rough-hewn stones under a couple of apple-trees, and this is the site of the chapel where Jeanne, the peasant girl, prayed; above is the haunted wood where the voices spoke to her of her great mission; from the side of the hill one looks out over a fair stretch of land, smiling enough with golden corn and silver-green oats, and meadows deep in flowers and creamy *sawasin* in blossom, where the hills that bound the scene fold softly one into the other till the mist of distance mingles them with the sky. It is not difficult to dream about the Maid of Orleans, sitting here, where certainly she once trod the ground and looked over France beleaguered by the English host. We set our sketching-stool beside the Meuse and washed in a memory of Domrémy for the sake of *La Pucelle*, and then drove to Neufchâteau between the pollarded trees and through the close-packed little village of Coussey. Here one must cry "Halte!" to the driver, for the old church tower is well worth seeing and noting down. A noble tower it has been in its best days—square, with trefoil-headed and coupled window, divided by delicate spiral and decorated shafts on two storeys, and the enriched mouldings carried round the angles of the tower, so as to give a continuous ornament. The string courses, too, are bold and bracketed. In the western door a little Norman sculpture and moulding still exists. It makes a capital "bit" for the sketch-book. Before entering Neufchâteau one sees across the valley, at a height among its fine woods and park, the château of Bourlemont, a lordly country house such as the French noblesse have known well how to place in feudal elevation above the lowly villages.

It is not from this side that you will know what a picturesque town is Neufchâteau. What with the Meuse playing its usual caprices, and a stream coming across to help it flow down, no less than three stone bridges are required for this little place. A quantity of marshy ground, rank with all kinds of watery growth, most beautiful to behold but unsavoury to breathe from, makes one of these viaducts necessary. Then comes a delicious curve of lush green meadow, all threaded by the meandering waters, with clusters of silver poplar and fringes of round-headed willow and groups of elm; and above this, Neufchâteau scrambles over its own hill, with a bridge over its own stream, with its great deep-roofed prison that looks like anything but a prison, and its little houses all tiled with the most delicious red and purple-brown tiles, the towers of St. Nicholas and St. Christopher against the sky, and deep folds of wood, that grow intensely purple in the evening, stretching away behind. What it is in the air here that gives such brilliancy to this scene we won't profess to declare; but the fact remains that in the late summer afternoons the whole place glows, and about sunset, if the time be kindly, is a rarely

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beautiful scene, that reminds one in its southern aspect of the Italian side of the Alps. Yet an old woman, working in a scrap of shade beneath St. Christopher's Church one hot morning, called the town "a miserable little hole," which was too bad of her. Neufchâteau boasts two considerable churches, which we have already indicated. St. Christopher is the eldest, as is still testified by the remnant of an open arcade protecting a Norman-headed window at the west end, and below a portal, with a flight of steps up to it; also by the little round-headed coupled windows in the clerestory. But, outside and in, the church has been mauled and mended. So has been likewise (so far as mending is concerned) St. Nicholas, the interior of which is so repaired and washed over that it becomes most difficult to know old work from new. There is a crypt church, with a quaint capital or two to the columns of very early date. The upper church is particularly happy in proportion, with its fine clustered shafts upon square piers, a long unbroken shaft, with small head for the spring of the simple vaulting, very wide aisles with chapels, a short choir of one bay and elegant narrow apse, and the peculiar feature of a short transept at the western end only, used as a portal on the southern side and a baptistery chapel on the north. The style is pure and the proportions harmonious. The detail, however, carving of capitals, brackets, &c, is coarse, and showing none of that affinity with the growth of Nature which the best Gothic decoration exhibits.

The Meuse plays one of its tricks in this neighbourhood. This side of the village of Bazoilles it simply disappears into the ground, and is not seen again until it comes out near Neufchâteau. The village above named is on the road to Bromont, within a pleasant drive through scenery characteristic of the country. First over a plateau, between the blossoming or fruiting crops, and fields and waysides absolute gardens of wild flowers, with a wooded valley deep ravined on our right, down to Bazoilles, among well-wooded hills, and up again on the cultivated level islanded with fir plantations and copse wood; then down again into the pretty little village of Hareville, where the dark eyes and cream and rose tints of the women and children sitting about on the doorsteps would tempt a figure painter; and up once more, the yellow rock jutting out by the roadside, through a wood and a straggling village with a fountain at a crossway, and a row of twenty splendid Scotch firs just outside the last street; and so in sight of the Meuse again to our left, looking quite a tidy stream bordered by ash and alder trees, though every mile brings us nearer the source. Presently we catch sight of Bramont, perched like an Italian town on a steep hill, but we near and pass through straggling St. Thiebaut first, and then out on the open, with the wide valley lying over to the right, a sea of variegated hue, into which the soft hills run like promontories one beyond the other. Now up to Bromont, which indeed proves as quaintly ordered as it looked from below. The hill on which it is built has a conical shape almost, and ends in fantastic rocks, riven and splintered and caverned, with a flat space at the top, and plenteous wood covering them up with a shroud of greenery that hides them from below. On one side of the hill is the town, accommodating itself by flights of steps and such contrivances to the levels it has to make or find. From the friendly shade of a sort of sylvan terrace outside the town you get a fine extended view, and when the air is clear can see above the horizon southwards the great church at Langres, which is beyond the source of the Meuse, that is calmly gliding, a blue ribbon, through the arches of a bridge in the valley far below. We should have only twenty miles to ride to see the river make its first public appearance in the sunlight, after that mysterious gathering up of waters in the cool depth of the earth, which is Nature's way before she sends forth a stream to flow its hundreds of miles through the quiet country and through the restless hives of men, widening ever as it flows, until, broad and shining, its course accomplished, it may pass into the great sea and bury itself therein.

The Fates are not to be thwarted. After letting us follow up the Meuse thus far, they have said "no farther," and though it seems very hard to break faith with ourselves, and not absolutely trace the river to its actual source, we must be content to have been within a short day's ride of it, and turn back to Neufchâteau, while the young moon hangs her golden sickle over the ripened corn, and ere the light quite fails the crops are being gathered in and the wains loaded, while the gleaners bend patiently over the stubble, and the cattle are going home with their herds beside them. The woods lie in slumberless masses; soft silvery mist muffles round their feet, or drifts in films along the narrower valleys.

It is a matter of course that such scenery as the valley of the Meuse throughout the French portion of its course affords is especially dependent on times and seasons for beauty. The woods are to a great extent deciduous, and need the glad greens of spring foliage or the glories of summer and early autumn. The cultivated land is most joyous and most pictorial when the various crops give a rainbow variety of tint to the hedgeless tracts, and t wild flowers are in great luxuriance and most brilliant colour. Moreover, all landscape artists know that the shadows of August and September have a peculiar richness and depth of tone that is of the utmost gain to mountainous and wooded scenery; while every deep roof or overhanging storey, every moulding, or jutting bit of stonework, gains tenfold strength and value. There is nothing extraordinary in the features of the tract we have lately passed through, but it has variety and character, is often lovely, sometimes picturesque, occasionally romantic, and always pleasant in fine weather.

Here we say good-bye to France, pass down the line again to Givet, take a week's driving in the forests of the Ardennes, and so by the Luxembourg line run to Namur and on to Huy, which we reach in time for a Sunday, and hear High Mass chanted by a fine choir in the noble collegiate church.

HABICH MEMORIAL.

THE Habich Monument has been recently erected in the Plazuela de San Agustine, Lima, Peru, in memory of Mr. Eduardo P. de Habich, late Director of the School of Mines. The movement for the erection of the monument was inaugurated by the Society of Engineers in 1910. In 1913 the Municipality assigned a place for its erection and the Government contributed the sum of £300 towards the cost. The design for the monument was made by Mr. L. Valente, Professor of the School of Arts and Crafts, and the work was executed in Paris by the sculptor Carlos Perron.

Eduardo J. de Habich, born in Varsovia, Poland, in 1835, was the son of a General in the Grand Army of the First Napoleon, and himself served with distinction as an officer in the Russian Army during the Crimean War. In 1859 he resigned his commission and became a fellow-student with M. Sadi-Carnot (afterwards President of France) in an engineering school in Paris. Shortly after his graduation he was recalled to Poland to serve his country in the Polish-Russian War and afterwards as diplomatic representative in Austrian Poland, where he rendered distinguished services. Paris again claimed him as Director of the Polish High School, where he contributed several books on the science of mathematics. In 1869 he was called to Peru by the Balta Government as State Engineer, in which capacity he served the country for three years, projecting and executing an important series of irrigation and other public works. Under the Pardo Government he was a member of the Commission charged with the organisation of the Cuerpo de Ingenieros del Peru, the Junta Central, the Commission of Public Instruction, &c.

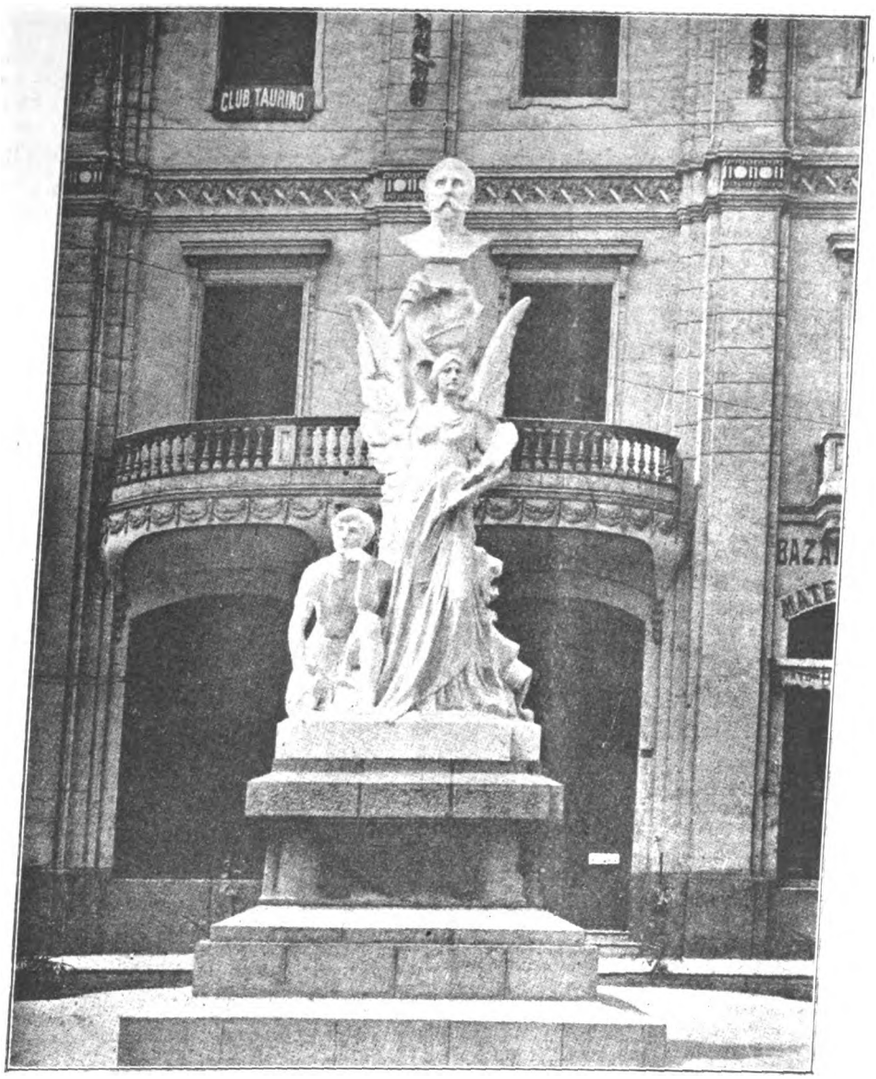
In May 1879 Mr. Habich undertook the organisation of the School of Engineers, which was inaugurated the same year, and thus began what was to be his most important life work, as director of that institution for more than thirty years, maintaining it even during the Chilian war at his own personal cost and in private quarters when every other school was disorganised. Mr. Habich was the only South American member of the French Société d'Encouragement pour l'Industrie Nationale, and was held in high esteem throughout the world for his scientific accomplishments.

THE ROYAL COLLEGE OF ART.

THE architectural course for the coming session will have as professor A. Beresford Pite, F.R.I.B.A., and as assistant instructor A. E. Martin, A.R.C.A. (London).

The Architectural School consists of a lower and of an upper division. The lower division provides a general architectural course adapted for all students entering the college, unless previously qualified in the subject, and usually extends to one term only. The upper division is divided into two sections: (1) The ordinary course which is adapted for

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THE HABICH MEMORIAL, LIMA, PERU.

general students who desire to continue the study of architectural design; and (2) the advanced course which is undertaken by specialised students who propose to become teachers, architects, or workers in the building crafts.

Students intending to specialise in architecture are advised to undertake the lower division course of study before entering upon the courses of the upper division. The ordinary and advanced courses of the upper division are available for students who, having taken the lower division course on entering, afterwards specialised in one of the other schools of the college.

The following syllabus is varied in subjects and detail each year, but the courses and methods of study indicated are generally adhered to. Advanced students in the upper division undertake special studies, other than those set forth in the syllabus, as approved by the professor.

LOWER DIVISION.

The course for the first term includes the following syllabus of English woodwork and masonry, and of Greek and Italian Renaissance architecture.

English Woodwork.—I. Measured drawings of objects in the Victoria and Albert Museum:—(*a*) Small scale studies, forming a series illustrative of the historical development of framing and of the employment of mouldings and carved ornaments. (*b*) Full size working drawing, suitable for a practical workman, of one example in the Museum. II. Lectures with lantern photographic illustrations will be given on the historical development of woodwork ornament. III. Series of studies from photographs and plates of ancient examples of internal treatment of rooms, &c. IV. A subject in design based upon the foregoing studies will be given, *e.g.*, the panelling and fitting up of a portion of a modern building, with working and detailed drawings, full size mouldings and carving.

English Mediæval Masonry.—I. Course of lectures on English Mediæval masonry, illustrated by lantern photographs, dealing with the development of ecclesiastical buildings from the Saxon till the Tudor period; and especially with vaulting and the progress of craftsmanship as illustrated in mouldings and carving. II. Series of geometrical sketches from published drawings of ancient examples. III. Visits to examples of Mediæval building in and near London, and to selected modern churches. IV. Full size templates of pier mouldings including archivolts and vaulting ribs. V. Subject in design based upon the foregoing studies for some portion of an ecclesiastical building including a vault. Drawn to one-half inch scale with the vaulting geometrically projected, and with the mouldings and springer full size.

Greek Architecture.—I. Course of lectures on the development of Greek architecture in Asia and Europe, and on the buildings of the Acropolis at Athens, illustrated by lantern photographs and diagrams. II. Small studies of the proportions of the Doric and Ionic orders, accompanied by full size sections of mouldings. III. Visits to the British Museum and to buildings in London of the early nineteenth century in the Grecian style. IV. Subject in design, illustrating the picturesque effect of symmetrical treatment, *e.g.*, in columnar architecture in perspective.

Italian Renaissance.—I. Course of lectures on the work of the architects of Florence and Northern Italy in the fifteenth and sixteenth centuries, *i.e.*, from the completion of the Duomo at Florence to that of St. Peter's, Rome, with lantern photographs and diagrams. II. Series of geometri-

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cal sketches from plans and photographs of the development of civil buildings. III. Measured drawings and sketches from casts and objects in the Victoria and Albert Museum illustrating the development of Renaissance ornament and the employment of sculpture in conjunction with architectural forms. IV. Subject in design based upon a phase of the Renaissance or upon the work of a master, involving the treatment of ornament for a monument, fountain, pulpit, &c. V. Copy studies of selected examples of coloured decoration of the Early Renaissance.

UPPER DIVISION.

Ordinary Course.

This course consists of the detailed design of one or more subjects, with a series of precedents. The subjects illustrate the combination of architecture with colour decoration and sculpture. Careful measured studies of Greek marbles in the British Museum, and of other ancient examples are undertaken by students in this course as special subjects. Visits are paid to buildings illustrative of the subjects of study, and outdoor sketching is undertaken on these occasions. A syllabus of the principal subjects for design is prepared for each term; among these have been included: A pavilion for an international exhibition, with an open loggia decorated in colour. The decoration of the sanctuary of an Italian Renaissance church. A clubhouse for a country town with ornamental plaster ceilings and panelled staircase. A town mansion, with hall, staircase, and drawing-room decorated in colour. A public square with fountain.

The detailed syllabus of one term's subject is set out below to illustrate the course of study.

Domed Architecture.—1. Course of lectures on the progress of domed building from Roman to Byzantine, and to the Renaissance, illustrated with lantern photographs and diagrams. 2. Series of small-scale studies, dated and noted, with part plan elevation and section of each, from drawings and photographs: (*a*) Roman.—Pantheon, Rome; Baths of Gallienus, Rome. (*b*) Byzantine.—St. Sophia, Constantinople; St. Mark, Venice. (*c*) Renaissance.—Duomo, Florence; St. Peter, Rome; St. Paul, London; Panthéon, Paris. 3. Subject for design involving the use of a dome, as a cemetery chapel in a campo santo, or a church in a tropical climate. The style to be some phase of Christian architecture—e.g., Romanesque or Early Christian—comprising a decorative scheme in mosaic or fresco: (*a*) Working drawings to small scale and perspective sketch; (*b*) larger detail of a portion of the chapel; (*c*) small-scale scheme showing colour treatment in fresco or mosaic, without figures or ornamental details; (*d*) complementary to above: colour scheme, including figure compositions, &c.; (*e*) ornamental details in colour.

Advanced Course.

As in the ordinary course of this division, the subjects proposed to the advanced students include architectural design in combination with the allied arts of decorative painting and sculpture, and in conjunction with the handicrafts of ornamental wood and metal work.

One subject is selected each session; the first term is devoted to preliminary designs and to the study of precedents, the architectural and technical aspects of the design being first considered; the second term's work is the study and design of the decorative portions of the subject, the preparation and completion of working and detail drawings that would be required for the due execution of the proposed work.

Among the subjects dealt with have been: A town church in the Renaissance manner decorated in colour; a college chapel in the English mediæval manner, with stall-work and vaulting fully detailed; a country residence for a Prince as a subject in domestic architecture; a naval monument for St. Paul's Cathedral.

The syllabus of the studies for the latter design is set out below to indicate the course of study in the subject of the combination of sculpture and architecture. The outline syllabus for the study of colour decoration and architecture, and the general syllabus of English domestic architecture are also added.

SCULPTURE AND ARCHITECTURE.

I. Series of historical studies made from casts and marbles in the Victoria and Albert and British Museums of the employment of sculpture in architecture: illustrating position and purpose of sculpture as well as character, with plans and elevations.

Greek.—(*a*) Pediment and frieze—e.g., figures enclosed by architecture. Parthenon and Theseum. (*b*) Tomb steles. Low relief free figures. Tower of the Winds. Pergamos. (*c*) Detached figures. Monuments. The Mausolus quadriga. Nike of Samothrace. (*d*) Figures attached to architecture. Caryatids. Erechtheum. (*e*) Decorated columns and pedestals—e.g., Ephesus.

Romanesque and Early Mediæval.—Studies in Victoria and Albert Museum and from photographs and drawings in the Library: (*a*) Portal, Cathedral Santiago di Compostella, from cast in the Victoria and Albert Museum. (*b*) Portal, Moissac. Beaulieu. (*c*) Caryatid Piers, St. Trophime, Arles. (*d*) Friezes on lintels. St. Trophime, St. Giles, St. Marthe, Tarascon. (*e*) Free use on elevations. Poitiers. St. Jouin de Marne. (*f*) Employment in panels. St. Amande de Boixe. Selles sur Cher. Dax. St. Paul de Varax.

Mediæval.—From casts in the Victoria and Albert Museum: (*a*) Figure of Christ from the Portal of Amiens, and key diagram of position. Three sets of figures from Auxerre, and key. Group from St. Sebald's Church, Nuremberg, by Adam Kraft, and key sketch.

Studies from photographs and drawings: (*b*) Scheme of west front, Wells Cathedral. Interior of south transept, Westminster Abbey. Angel Choir, Lincoln Cathedral. (*c*) Distribution of sculpture and schemes. Porches, Chartres Cathedral. Notre Dame, Paris, west front. St. Pierre sous Vezelay. The Abbey, Vezelay.

Renaissance.—Series of studies from casts in the Victoria and Albert Museum, sketch elevations and plans.

Italian Pre-Renaissance.—School of Pisani. Pisa; Baptistery pulpit. Cathedral pulpit. Milan; shrine of St. Peter Martyr.

Cinque Cento.—(*a*) Ghiberti. Florence Baptistery, north and east gates. (*b*) Donatello. Annunciation from S. Croce, Florence. (*c*) Mino da Fiesole and Sansovino.

Michael Angelo.—Studies of composition: (*a*) Sistine Chapel, frescoes, groups. (*b*) Medici Tombs, Florence. (*c*) Bronze panel.

II. Series of sketch designs in historic styles. A mausoleum. The entrance to a campo santo.

III. Design for a monumental tomb in St. Paul's Cathedral, commemorating a hero. Small-scale sketches, working drawings, large-scale details, perspectives or models, the arrangement of sculpture being fully designed.

ENGLISH DOMESTIC ARCHITECTURE.

I. Course of lectures on the historical development of house planning in England.

II. Studies made from illustrations of examples: (*a*) Prior to Elizabethan. (*b*) Elizabethan and Jacobean. (*c*) The works of Inigo Jones and Wren, and until Chambers. (*d*) The Victorian revivals.

Plans and sketch elevations with characteristic details. Position of gardens, names of rooms. Notes as to date, locality, and materials.

III. Exercises in design in the manner of the first three periods mentioned above.

IV. Design for a modern residence with working drawings, and some portion fully detailed for wood or stonework.

V. Internal decoration of hall or drawing-room in colour.

COLOUR DECORATION OF ARCHITECTURE.

I. Series of studies copied from drawings in the Art Library, and sketches from models in the Museum: to illustrate rise of the Renaissance School. II. Analytical notes of each example giving some particulars of architectural situation and treatment, and of the system of colour decoration and ornament. III. Preparation of design for treatment in colour of a portion of a Renaissance monument or building—e.g., the Sanctuary of Sta. Chiara, Florence: in the Victoria and Albert Museum. IV. Large-scale details of coloured ornament. V. Employment of coloured materials constructively and for surface enrichment. VI. Mediæval colour decoration, studies of decorated reredoses and other objects in the Museum.

Students in the Advanced Course undertake special surveys of ancient monuments as complete records, and archæological restorations of Greek buildings. Full-size cartoons have been prepared of the order of the Mausoleum at Halicarnassos with a small-scale restoration. Diagram, one-eighth full size, of the order of the Parthenon.

Complete surveys of important buildings abroad are

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made by the travelling students of this school, and are worked out and completed in the college; among these have been the Pazzi Chapel, Florence; the decorated church at Saronno, near Milan; the domed church at Montepulciano; and the Massimi Palace at Rome.

Among English monuments that have been surveyed and drawn are: All Hallows Church, Lombard Street, with its fittings of metal, marble, and carved woodwork; the Abbey of Christchurch, Hampshire. Complete ground plan survey of Westminster Abbey to a large scale.

NORTHAMPTON POLYTECHNIC INSTITUTE.

FOR the session 1914-15 various new developments are projected at this institution.

During the past year the equipment of the various departments has been extended in many directions. Amongst the more important items may be mentioned in the Mechanical Engineering Department a complete two-stage air compressor plant designed for experimental work in engineering problems in connection with the compression of air and also providing a supply of pressure air for pneumatic tools, &c. The equipment for aeronautical engineering and for the testing of materials under repetition stresses has been extended, and in the engineering workshop some additional important tools have been added. In the Electrical Engineering Department the equipment of precision testing instruments has been extended, and numerous additions have been made to the equipment in all the laboratories. In all departments a fair amount was spent on extensions during the session 1913-14.

The programme of work for the new session was necessarily arranged before the present abnormal state of public affairs arose, and the published "Announcements" set forth schemes of work which were contemplated without any prevision of the serious disturbance which has arisen. How far this work can now be carried into effect, either as regards the instructors or because of disturbances in the ranks of the students, it is impossible to say. In a general way all the classes announced will be started, and most, if not all, of the work will be carried out, even if the numbers attending the classes are seriously diminished. In one or two cases it may not be possible for special instructors to fulfil their engagements.

The courses in the Engineering Day College are to be continued with certain minor adjustments.

In the evening classes in engineering the important departures made a year ago by the introduction, as part of the regular courses of short courses of lectures by specialists in their various subjects, are to be developed. Thus, in the Electrical Engineering Department there are to be two series of advanced lectures, one by Mr. W. C. Kennett, B.Sc. (Lond.), A.M.I.C.E., A.M.I.E.E., on "Transformer Design," the other by Mr. A. C. Heap, M.I.E.E., on "Electrical Instruments and Switch Gear." These special lectures are interpolated in two different courses of the regular advanced lectures of the session, but whilst primarily intended for those who are taking the full courses they can be attended by others who are specially interested in the subject of the special course.

Again, in the Mechanical Engineering Department the main course of lectures upon aeronautics is to be taken by three specialist lecturers. Mr. T. W. K. Clarke, B.A., by special permission of the Royal Aircraft Factory, is to give a course of six lectures on "Propellers"; Mr. G. A. Burls, M.I.C.E., a special course of seven lectures upon "Aero Engines," and Mr. F. Handley Page thirteen lectures upon "Principles and Design Data for Aeroplane Construction" and five lectures upon "Complete Machines." In connection with these courses there are full courses in drawing-office and laboratory and mathematical work for all students who desire to study the important subject of aeronautics thoroughly.

The special classes for Post Office workmen and boy messengers, started last session, are being continued, and in connection with small current work there are also classes in submarine cable work for the employees of the various cable companies who have their headquarters in London, and elementary and advanced classes in radio-telegraphy, the latter being under the direction of Mr. E. S. Perrin, B.Sc., A.M.I.C.E., of the Engineer-in-Chief's staff.

There are minor new developments, too numerous to specify, in all departments, including civil, mechanical and electrical engineering, artistic crafts, technical optics, technical chemistry, horology and women's trades.

THE RELATION OF INDUSTRY TO ART.—II.*

By SIR CHARLES WALDSTEIN, Litt.D., Ph.D.

WHEN the architect erects a building with decoration and fittings of an artistic character, not only in the elevation of the exterior, but also in the hall, staircase, and rooms and their furnishings, thus introducing works of Fine Art, he ought to call upon the best and highest representatives of Fine Art—painters, sculptors, and decorative artists. But how rare, how quite exceptional, is it that he does this! Occasionally the building owner who employs him, if he be a lover of the Fine Arts himself, may of his own accord give such an order to one of the leading representatives of pure art. As a rule, however—even in the case of our most costly buildings—the owner leaves it to the architect, and the architect to the contractor, and the contractor to some firm of superior stonemasons or decorative painters who, on their part, again employ a class of superior artisans, at best with some decorative artist to guide them; but hardly ever is the leading sculptor or painter of the day called in. Examine the exterior of the most costly and sumptuous buildings, palaces and churches, and great public offices, on which huge sums have been expended, and tell me in how many cases the sculptures in the pediments, the figures placed in the niches, or the friezes in relief, are the work of the leading sculptor of the day. And when you come to the interior, how many instances can you enumerate in which the pictorial decoration of the walls, or the sculptured decoration of the interior, has been executed by the recognised master in painting or in sculpture?

On the other hand, let me remind you that some of the works which we treasure most as representing the highest degree of perfection in sculpture, that have come down to us from the ancient Greeks, were not works of pure sculpture—that is, statues standing by themselves and meant only to be seen in themselves—but were works of architectural sculpture meant to decorate a building. The most striking example of this, constituting one of our greatest (perhaps the greatest) national treasures, are the Elgin marbles in the British Museum, the statues which decorated the pediments, the high reliefs in the metopes, and the low relief of that marvellous frieze that for over 522 feet ran round the Parthenon. If not executed in detail by Pheidias himself, we are all agreed that their composition and design was the work of this greatest master of the art of sculpture. The ancient authors definitely state that the sculptor Praxias, the pupil of Alcamenes, composed the pedimental groups and the metopes for the great Temple of Apollo at Delphi. But to Alcamenes himself and to another sculptor, Paeonius of Mende, are attributed by Pausanias the pediments of the great Temple of Zeus at Olympia, which have in great part been excavated for us by the German archæologists about forty years ago. There has come down to us a long and full inscription mentioning the names of the various sculptors who were employed in decorating the famous Erectheum on the Acropolis at Athens, and even the prices paid to them for each portion of their work are there recorded.

A generation after this we hear that the sculptor Collotes, who assisted Pheidias in the erection of the glorious gold and ivory statue of Zeus at Olympia, produced a great work of art in the wonderful gold and ivory table that was erected before the statue in that temple. Then in the middle of the fourth century B.C. the leading sculptor, Scopas, produced the pediments of the Temple of Athena Alea, at Tegea, of which some most interesting fragments have come down to us. We even hear that he himself furnished one of the great columns of the Temple of Artemis at Ephesus, which was decorated by sculpture in relief, specimens of which have come down to us from the British excavations by Mr. Wood, and are a part of the treasure in our British Museum. We may almost hope that one of the most beautiful of these, if not the actual one assigned to Scopas, certainly reflects his spirit and style. The sculptor of exquisite grace and beauty, Praxiteles, produced in this very Temple of Artemis at Ephesus an altar decorated with reliefs which was a masterpiece of his art. The famous Mausoleum of Halicarnassus, one of the seven wonders of the world, the remains of which are again one of our great national treasures in the British Museum, was profusely decorated with statues in the round and

* Abstract of the second of three Cantor lectures delivered before the Royal Society of Arts, and reported in full in their Journal.

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relief work in the friezes, and we are definitely told that the leading sculptors of the day—Scopas, Bryaxis, Timotheus, and Leochares—divided the various sides of the work among them.

I could give you an endless sequence of such great works representing the pure art of sculpture at its height, in which the opportunity was given to the sculptor, through the architect, to manifest his art in the buildings of old. So, too, all the great painters of antiquity, whose works are recorded in terms of the highest admiration, from Polygnotos, with his famous Lesche of the Cnidians at Delphi and his Stoa Poikile at Athens onwards, produced some of their most famous paintings as interior and exterior decorations of public buildings.

The same applies to the Gothic period whenever we can note and pick out a definite sculptor whose work can be identified in the present day. But when we come to the Renaissance in Italy, I would merely have you recall what Florence will tell you if you pass through its streets, its churches, and its museums. From the Baptistery Gates by Niccolo Pisano and Ghiberti, the great sculptors decorated with their best work the exterior and interior of churches and palaces. Take Donatello's work in the one church, Or-San-Michele, his St. Mark, his St. George (now in the Bargello National Museum), and a bas-relief of St. George slaying the dragon. It was he who made the organ gallery or Cantorie for the Duomo, and now in the "Opera del Duomo," with the famous singing boys and girls by Luca della Robbia. The chapel of the Pazzi, built by Brunelleschi, contains a frieze of Angel Heads by Donatello and Desiderio, while the inside contains the Apostles and Evangelists by Luca della Robbia; on the silver altar for the Baptistery was the statue of the Baptist by Michelozzo. Not only the churches but the palaces and private dwellings were decorated in the same way. Donatello made the classical medallions in the court of the Palazzo Riccardi. There are hardly any of the great buildings of Florence the exterior and interior decoration of which does not contain some masterpiece of sculpture by one of the most eminent sculptors of the day. And when we come to the frescoes or wall-paintings of the interior of these buildings we have the Stanze by Raphael in the Vatican at Rome and the elaborate and minute decoration of the Loggie of that same palace by the same great master, to that marvellous repository of the highest painting in one room, the Sistine Chapel, which contains the most perfect work ever executed by Michel Angelo, by Ghirlandaio, Botticelli, Luca Signorelli, Rosselli, Perugino, and Pinturicchio. In every church and palace in Italy we have specimens of painting at its best as originally interwoven with the building, and thus forming part of the artistic design of the architect. The same applies to the more decorative adjuncts and furnishing, in which the great sculptors like Benvenuto Cellini and Verocchio realised, even in minute objects and accessories of use and furnishing, the supreme qualities of their art as pure sculptors. The same applies throughout the period of the Renaissance in France, through the periods of Louis XIV., XV., and XVI., in which the domain of the architect and decorator directly furnished a sphere of work and the opportunities of realising their highest art to the sculptor and the painter as well. Let me remind you that even in Germany some of the best work of that great sculptor, Schlüter, is to be found in the corbel heads decorating the architecture of the old arsenal at Berlin. I need but ask you to turn to the walls of this beautiful lecture-theatre in which I have the honour of addressing you, and to examine the wall-paintings by that remarkable artist Barry, unequal in excellence, but some of high merit, to make you realise what was attempted in England under the inspiration of the Brothers Adam in the eighteenth century.

Now, for a contrast, turn to the most costly buildings erected in our own day. Who composes and executes the pediments and friezes; who places in the niches, decorated with statues on the exterior or in the interior of churches and public buildings, the statues that embellish them? Who even composes the design for what ought to be a most perfect statue in the niche of a reredos, or on the choir-stalls and organ-loft, whether they be of marble, bronze, or wood? I can at this moment recall one exception, unfortunately still incomplete, in which Mr. Gilbert has thus been able to place some of his most exquisite work in the church at Sandringham. Some sepulchral memorials and fountains by the late Mr. St. Gaudens in America are also a consoling exception. But for the most part the execution of such splendid opportunities for the production of great works of pure art in sculpture and in painting is left practically to the building contractor with the consent of the architect, and the sum available for such important artistic work is cut down to a minimum. The same applies to pictorial decoration, and, as I have said before, to furnishing and detailed ornamentation. I have already cited the Boston Library as a notable exception. Whether we are admirers of that period of pictorial art in England or not, the frescoes in the passage to the House of Lords, perhaps illustrative of a not very high standard of painting in England, still marked a step in the right direction as regards the encouragement of art in this country. The same applies to Sir William Richmond's opportunity as regards the mosaics of St. Paul's Cathedral and several other noteworthy exceptions.

The fact, however, remains that, where large sums are expended in buildings, public or private, and where there is an artistic necessity, or even an opportunity, of their decoration by works of pure sculpture or pure painting, a proportionate amount ought to be set aside to attain the highest class of such artistic work, and the architect ought to insist on such co-operation with his most representative colleagues in the world of art. To say the least, in view of the limitations which I have imposed upon myself in dealing with art here to-day—*i.e.*, in its commercial or industrial aspect—such action on the part of architects and the public would relieve the impedition of art which prevails at this moment, and would furnish a stimulus and a wide field of opportunity to the best artists of our day.

I have, on another occasion,* insisted upon the duty of the State and other public bodies to employ our best sculptors in the production of out-of-door monuments as memorials to our great men in every sphere. I then endeavoured to show the artistic as well as the social, political, and moral desirability of such encouragement, existing to a high degree in other countries, such as France, but in a languishing state as regards our own. In passing, allow me again here to counteract one abuse of a minor character in this connection which, however, is significant of the general attitude as regards art. I am sure many of you have been disappointed and irritated, as I have been on many occasions, when vainly seeking for the name of a sculptor on some public monument. Long and conspicuous inscriptions, not so much devoted to the history of the man to whom the monument was erected, but giving the names of all the members of the public body which at the time erected it, stare one in the face; on a bronze we may have the name of the bronze foundry displayed in some prominence at the base of the bronze itself; but the name of the sculptor is frequently hidden away in such a manner as hardly to be discernible even by the searching eye. This small fact may be indicative of the general attitude of the public and the public bodies towards the representatives of highest art and towards art itself.

This last instance brings me to a most important, though complicated, question directly concerning industrial art and, above all, manufacture. It is especially complicated because it immediately trenches upon that most difficult problem of copyright in artistic design, which has been dealt with with considerable success in recent legislation, both national and international. It is still further complicated by the existence of impending trade traditions—or the absence of proper traditions—in the case of the large producers of works of industrial art, such as cabinet-makers, potters, gold and silversmiths, manufacturers of textiles and dress goods—in fact, in every industry which produces goods in which the artistic design forms the essential element.

If we take any one of our flourishing art industries in England in the eighteenth and early nineteenth centuries, we find that they have not only maintained their value, but that their market value has increased to an astounding degree. Now this maintenance of high market value is not only due to their forming a part of such objects of curiosity which appeal to the antiquarian interest of the public. It is not only due to the fact that they are antique. That this is not the case can at once be proved by the fact that a person desiring a beautiful model for a chair, or a cabinet, will be quite content to have a perfect new copy of such an object made from one of the extant specimens by Chippendale, Hepplewhite, Sheraton, or any of the other great cabinet-makers of those early days. He does this because he

* In a lecture delivered before the Royal Institution of Great Britain.

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rightly finds that in the evolution of proper form, as it were, the ideal of a chair was then evolved, and that, at the same time, the beautiful lines, whether in curves or in angles, as well as the proportion of each part—legs, cross-bars, seat, back, arms—to the object as a whole, and, finally, because of the actual decoration in carving that these are all perfect. Moreover, in the immediate decoration of such a chair you will find not only harmony and beauty in itself, so that the decoration as such pleases the eye, but that the form of decoration corresponds to the material, not only as wood but as harder wood, such as mahogany, which is, if I may use the term, more metallic in quality and appearance. Furthermore, you will find that the amount of decoration applied and the spaces where it is introduced immediately tally with the construction of the chair, and negatively do not interfere with the quality and unbroken flow of lines or the structure and use of the object as a whole, and positively, that they on their part are so placed that they form, as it were, complete artistic organisms in themselves, like a picture framed, placed and properly spaced on a wall.

Now, these perfect specimens of industrial art were produced by true and high representatives of the industrial art of their day, namely, by the cabinet-makers Chippendale, Hepplewhite, Sheraton, Ince, Mayhew, Shearer, and others. If you like they were firms of cabinet-makers; but the firm was known to the public by the leading artist as a cabinet-maker, namely, Chippendale or Hepplewhite, or Sheraton himself. The purchasing public knew all these men, and turned to them when they desired to purchase such an industrial article of real artistic value. But the originators of such works themselves—and this is the point I wish to insist upon—were encouraged to make their highest artistic effort and to do their best work in the execution of their design by the fact that such effort was rewarded in the establishment, the maintenance, and even the increase of their reputation. Their *facture*, as it were their signature, attached to such an artistic document was itself of high market value. There was thus established a wholesome interaction—action and reaction—between the producing industrial artist and the purchasing public. The cabinet-maker educated his public to the appreciation of the best artistic work in his line of trade, and the public, thus educated, encouraged the artist to make his best efforts in his highest productiveness.

With but few exceptions this wholesome state of affairs has gone from us. The laws of commerce and economical evolution have introduced new conditions of production, ultimately leading to the great department stores or shops in which all the forms of purchasable articles are mixed together for the convenience of the public, and can be purchased in one and the same building, with great economy of space and, above all, economy in the distributing staff, and, still more important, concentration of advertising power, thus to reach the public and to reduce the selling price because of these great economies.

It is vain and puerile to expect that we can alter the course of these inexorable laws of modern commercial development. Still, we can do much to counteract some of the evil consequences, especially where the quality of the goods is of paramount importance, and where the producer has been enabled to affix his trade mark, and to make himself known to the public as identified with such superior quality. The purchaser will then ask for the goods emanating from that one workshop or factory, or that brand which has so powerfully appealed to his palate. If such is the case with regard to ordinary commodities where the quality is paramount, the claims of such identification as to the origin of the goods become infinitely greater when the quality is one of design and taste, and means the actual intervention, the imaginative realisation, of some artist in his design and its execution. It is here that it seems to me a most important and crying need of reform in the traditions of trade with regard to industrial art is urgently called for; and the results of such reform will immediately tend to raise and improve, not only the actual production of such goods by the designer and manufacturer, but also the general taste of the public, its discriminative power to desire and to procure the best work representative of the most artistic wares in industrial art.

I am fully aware of the fact that in the cases I have just chiefly used for illustration—namely, the cabinet-makers of the eighteenth century in England—the designers were at the same time the producers and handicraftsmen, nay, even the distributors, of their wares. But the main point upon which I wish to insist is that it was known to the public that certain designs in the goods produced by Wedgwood were directly made by Flaxman, as for many years after this it was known that certain exquisite plates and vases, modelled in that delicate development of the potter's art called *pâte sur pâte*, produced by the firm of Minton, were immediately made by Solon (bearing his signature), who died but a short time ago. Not only were the actual works of the potter's manufacture thus of higher artistic quality, but the public was rightly made aware of this by the knowledge (the actual signature was often placed on the work itself) that the design did come from a great artist of such justly established reputation. Here comes the important point of practical reform which I wish to recommend to you for the benefit and the improvement of our industrial art.

We cannot retrace our steps in the evolution of modern manufacture, nor in the distribution of goods. But I venture to maintain that the more the landmarks of production are thus erased through the mechanical processes of manufacture, and especially through the confusingly intermingled avenues of distribution and purchase in our large emporia, the greater becomes the need, even for the guidance of the confused purchasers, to identify the goods they wish to purchase for their quality by means of the manifest indication of the origin and source from which these goods originally emanated. If such a reform will be of service to the purchaser, give him, in one word, greater facilities for buying what he wishes to buy, and in its action thus improving his own perceptions of quality—namely, his taste—it is chiefly in view of its effect upon the producer of works of art industry that we are interested in such a reform. For while he is now discouraged and impeded by the existing traditions—in fact, while, as an artist, he is threatened with extermination—he will then be protected and encouraged, and then, and only then, shall we be able to establish a flourishing art industry in our country and increase the value of the goods which we produce as a nation. Imagine the book trade being reduced to our merely asking for books by a given publisher, at most mentioning the name of the printer and binder, and submerging entirely the identity of the author!

When the manufacturer, nay, when the retailing shopman, or the heads of our great department stores, realise that there exists a demand for works which were designed by a truly distinguished industrial artist, they will employ him—but they must clearly manifest to the public that the goods in question have been designed by this artist of repute.

We shall thus encourage those best designers and creators of works of high artistic quality in industrial art who are now among us. But I hold that we shall really create a new class of such designers, arts and crafts workers of superior standing and inventiveness who now hardly exist, and, at all events, whose work is impeded by the existing state of affairs. It will then be worth while for an artist of talent, even a man of genius, to devote his energies to the production of superior work in art industry. We may ultimately hope that by far the greater number of those who now endeavour to produce the highest class of pictures and statues, for which their native talent has not fitted them, but who, together with true enthusiasm for art, start with that peculiar artistic gift which enables them to become the best designers and art craftsmen, will no longer swell the army of the unemployed and will not eke out a miserable existence in producing works of pure art of inferior quality, but will find their true vocation in increasing the supply of things of beauty as well as use for which the conditions of our modern life have created such an extensive demand.

Is it an unpractical suggestion and a mere dream of the study (which is supposed to be so far removed from the market place of real life) when I dare look forward in imagination to the day when the customer steps into the shop and asks for a chair or a cabinet designed by Smith or Jones, and produced by Johnson and Company, who manufacture large quantities of ordinary goods of a lower type to be found or to be bought, therefore, in all the large department stores? Or that the tradesman should tell his customer the name of the designer of each piece of plate, vase, and so on, with the designer's signature impressed unobtrusively in some part of the work which has thus become a work of art, though made in a factory?

I know there are innumerable difficulties in the way of the realisation of such a scheme. But, in any case, I maintain, in spite of all possible drawbacks and objections, that in the long run it would well pay the manufacturers, whose object it is to produce works of superior taste and design, to encourage the supply of such truly superior designers and

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art craftsmen, and to do this especially by identifying the class of goods thus produced with the name and personality of the art craftsman who has originated them. Their productions would undoubtedly be improved in this respect. They would ultimately be bound to find a market, and in the process they would educate the purchasing public up to higher standards of appreciation of what is the best work.

I can well remember the day when even Browning, and certainly Meredith, had an ardent but comparatively very small army of followers and admirers among the reading public. They were a comparatively small body of literary experts and connoisseurs; but their influence told in the end. I advisedly say in the end, because it took an inordinately long time to make itself felt and realised. But in the end they succeeded in creating what we might call a fashion. The example of this small band, by an arduous and very slow process of transfiltration, penetrated the thick crust of popular recognition, of newspaper notoriety; until, frequently insincere, though in most cases really produced by the systematic process of education in taste and appreciativeness, the mass of the people followed. As in the case of a new painter, whose work could not appeal to a wider public, the reading public throughout the English-speaking world began to say to itself that if this and that person among their acquaintances insisted upon the decided merit of a Browning and a Meredith, there must be something good in the work of these writers. The obscurities, mannerisms, and affectations of style (undoubtedly these are not in any way artistic virtues) upon which the hasty or superficial reader dwelt, and which he obtruded in his facile criticisms without ever penetrating deeper into the mines of pure gold that lay in their positive artistic qualities, began to feel and to admit that there must be something of good if the people whom he admired and in whose taste he had confidence asserted that this was so with conviction and sincerity. And so, either making a successful educational effort to improve themselves into appreciation, or blindly following the fashion with slavishly reiterated praise, people established ultimately a wider market for these truly superior works of literary art. In the treatment of our authors we ought no longer to follow the lead of the mob, the fatal ochlocracy in literature and art, which reverses the normal process of rational rule until the blind lead those with clear sight, the ignorant the wise, the gross the refined, the followers their natural leaders. The true keynote of value will, eventually we hope, itself be struck until it reverberates throughout the country, and is repeated from every village church bell, perhaps even every factory whistle. And mind you, and this concerns us most, the whole taste of the nation will be raised to a higher standard, and the civilisation of the age and the land in which we live will be truly progressing towards a higher goal, whereas now, with the spread of a misdirected democracy, there is the danger, in no wise necessarily inherent in a democracy as such, that our whole civilisation be dragged down to depths of flat mediocrity or vulgarity.

THE BRITISH MUSEUM.

ACCORDING to the official return, the year 1913 showed a very remarkable increase in the number of visitors to the Museum, the total amounting to 947,090, as compared with 754,872 in the previous year. The rise has been almost continuous since 1907, when the total was 646,300, but the present increase is greatly in excess of any previously recorded. The total is the highest on record with the exception of 1904, when the number returned was 954,551. The figures for week-days only is 884,028, a total of over 100,000 having been reached in both August and September. The visitors on Sundays amounted to 63,062, but this figure is lower than has been customary in recent years.

The number of visits by readers to the Reading Room showed an advance of over 7,000 on the figures for 1912, which were themselves higher than any previously recorded. The precise figures were 243,659, as against 236,643 in 1912, and the daily average 804, as compared with 778. The total number of volumes supplied was 1,542,701, exclusive of those on the shelves in the Reading Room to which readers have free access.

The visits of students to other departments of the Museum show a slight decrease, the total being 37,688, as compared with 38,698 in 1912. This, however, is accounted for by the fact that the Department of Prints and Drawings (the most largely frequented after the Department of Manuscripts) was closed for the last four months of the year, during the removal of the collections to the new wing. Its figures are consequently lower by about 2,400 than the average for the five preceding years.

During the year the main structure of the extension building was completed, and it was formally handed over by the First Commissioner of Works to the Trustees of the British Museum in October. Throughout the year the work of supplying the fittings was in full progress, and by the close of the year the main contracts were practically completed and the transfer of the collections had begun. His Majesty the King having been graciously pleased to fix provisionally a date in May 1914 for the opening of the building, it was hoped that by that date the Department of Prints and Drawings would be entirely installed in its new quarters, and the Stein Collection displayed in the lower public gallery. The preparation of the new Students' Room and studies for the Department of Egyptian and Assyrian Antiquities was also in progress.

No great change has been made in the exhibition galleries during the year. The exhibition of drawings by European artists acquired during the years 1904-12 was closed in consequence of the transfer of the department to its new quarters. A temporary exhibition of medical MSS. was prepared in connection with the meeting of the International Medical Congress in London in August. Minor rearrangements were made in the Departments of Greek and Roman Antiquities and of British Mediæval Antiquities, the most important being that involved in the display of the Barwell bequest of enamels mentioned below.

The lectures of the official guide continued to be popular, the numbers attending them being sometimes embarrassingly large. It is estimated that about 23,000 persons accompanied his tours in the course of the year.

The stall for the sale of photographs, guide-books, and other official publications, mentioned in the annual report for 1912, has been strikingly successful. A return prepared in November for the information of the Treasury showed an increase of nearly £2,000 in sales during the past sixteen months, as compared with the same period next preceding. The number of picture post-cards sold amounted to about 155,000. A considerable extension of the stock of post-cards sold in sets to illustrate particular subjects, and also of larger photographs, was in contemplation. It is to be observed that the existence of the stall has greatly stimulated the sales of guide-books and catalogues as well as photographs.

Excavations were continued at Jerablus, on the site of the ancient Carchemish, during the spring and autumn, with most successful results. Long ranges of bas-reliefs were discovered, with figures and inscriptions in excellent condition, besides some sculptures in the round and a considerable amount of pottery. The continued generosity of the anonymous benefactor mentioned in the last report makes it possible for the Trustees to carry on these very important excavations.

An officer of the Department of Printed Books was sent to America to study the latest developments in the methods of transporting books from the shelves to the readers, and to consider their adaptability to the conditions of the British Museum.

The number of separate objects incorporated in the collections of the several departments during the year 1913 is as follows:—

Department of Printed Books:—	
Books and pamphlets	38,116
Serials and parts of volumes	78,597
Maps and atlases	3,741
Music	12,223
Newspapers (single numbers)	230,922
Miscellaneous	8,624
Manuscripts and seals	1,475
Oriental printed books and manuscripts	3,512
Prints and drawings	8,410
Egyptian and Assyrian antiquities	5,346
Greek and Roman antiquities	572
British and mediæval antiquities	4,193
Coins and medals	2,757
Total	398,488

Full lists of all noteworthy objects added to the collections in the course of the year are given in the reports from the several departments. Particular attention is called to two notable benefactions—namely, the Barwell bequest of Limoges enamels and other specimens of mediæval

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art, and the gift of the Arthur Morrison collection of Japanese and Chinese paintings by Mr. W. Gwynne-Evans (now Sir William Gwynne-Evans, Bart.).

The Department of Printed Books has continued to pay special attention to early printed books, the catalogue of which is making steady progress. Sixty-one incunabula and thirty-eight English books printed before 1640 have been acquired, including exchanges of thirty-one volumes with the Bodleian Library, and three with the Law Library of Harvard University, and purchases at the Huth and Dunn sales. An almost unique copy of an early (perhaps pirated) edition of "Robinson Crusoe" also deserves mention. This edition has many variations from the text of the authorised first edition printed in the same year. It was very possibly a piracy made from a stolen set of proof-sheets, and printed to be sold by travelling chapmen.

The Department of Manuscripts likewise made some valuable acquisitions at the Dunn sale, notably three thirteenth-century French Romance MSS. The gifts received by the department include four remarkable letters of Charlotte Brontë, presented by Mr. Paul Heger. Among the purchases are John Locke's autograph draft of his treatise on education, and autographs of H. Hallam, Mrs. Gaskell, Sir J. E. Millais, Holman Hunt, Robert Browning, and C. S. Calverley.

The western section of the Department of Prints and Drawings succeeded in acquiring two pen-and-ink sketches by Leonardo da Vinci, and several valuable drawings and prints. Some works of the first importance were obtained from the Heseltine collection through the liberality of Mr. Heseltine himself, Viscount Iveagh, and Mr. Walter Morrison. The National Art Collections Fund continued its valuable services to the department, which likewise benefited by the generosity of many private benefactors, whose names are set out below. Among the drawings of the English School are designs by James Gibbs for a memorial column to Queen Anne in the Strand, and for three monuments, including that of Ben Jonson. Also seven sketches by Sir James Thornhill for the paintings of the life of St. Paul in St. Paul's Cathedral.

The Oriental section of the department received a gift of quite exceptional value in the Arthur Morrison collection, mentioned above, which was probably the finest of the kind in Europe, and greatly enhances the importance of the already fine collection of Oriental art in the Museum. Three Chinese paintings of great importance were purchased, and the National Art Collections Fund presented a large painting of the Mogul School, representing the House of Tamerlane.

The most noteworthy acquisitions of the Department of Egyptian and Assyrian antiquities are the Canopic jars of a queen of the twenty-first dynasty; a collection of 970 scarabs; a collection of nearly 3,000 early Babylonian tablets; some important Hittite tablets; a bronze Egyptian serpent, presented by the Earl of Carnarvon; and a remarkable collection of cylinder-seals acquired in Assyria by Sir Henry Layard and bequeathed by Lady Layard.

The acquisitions of the Department of Greek and Roman Antiquities include six fine bronze statuettes, a large bronze axe, several interesting vases and fragments of early pottery, and a fine mosaic pavement from the Rhone Valley.

The Department of British and Mediæval Antiquities has made the most valuable acquisition of the year in the splendid collection of Limoges enamels and other examples of mediæval art bequeathed by the late Canon S. Barwell. This was the finest private collection of these enamels in existence, and correspondingly enriches the Museum. Works of art of the T'ang dynasty of any size are most uncommon, and it is evident that statues of the proportions of this example must necessarily be very rare. It is an astonishing piece of work, even when regarded from the point of view of the practical potter, to have dried and fired a figure of this size with such conspicuous success, and it is somewhat of a revelation to Europe that the Chinese were capable of such work in the ninth century. While the technical peculiarities are noteworthy, the artistic side of the figure is fully as worthy of remark. Another striking and important acquisition, of a very different kind, is the seated figure of a Buddhist devotee, in pottery of the T'ang period, of more than life-size, which has no equal, and very few competitors, out of China. The National Art Collections Fund and several private friends have been instrumental in obtaining this and many other valuable additions to the riches of the Museum. Among the mediæval acquisitions attention may be called to the seal-matrices from the Dimsdale sale, and a gilt pocket dial presented by Mr. M. Rosenheim. His Majesty the King has been graciously pleased to deposit in the Museum a number of objects presented to him by the Dalai Lama of Tibet, including a remarkable saddle on which the first Dalai Lama rode into Lhasa.

In the Department of Coins and Medals special attention is due to the unique gold coin of Offa, king of Mercia 757-796, from the Carlyon-Britton sale. This coin has been one of the most famous of the English Series since its acquisition in Rome by the Duc de Blacas in 1841. Its importance and interest lie largely in the fact that it is the first gold coin that can be attributed to any Anglo-Saxon king. The introduction of the silver penny by this same king, Offa, following the example of Pepin le Bref, was the foundation of one of the most famous of the world's currencies. If this gold coin illustrates an attempt to establish a gold currency, the attempt was a failure, but it is more probable that the gold coinage was issued for some special purpose. The opinion was long held that this piece belonged to an issue of gold struck expressly for the purpose of the yearly payment to the Pope of 365 mancuses in accordance with the King's vow, but the use of Muslim types in unmodified form makes it unlikely that the coin can have been struck for this purpose. The designs of both obverse and reverse consist of Arabic inscriptions closely imitating those of an Arabic dinar of the year 774, but differing from them in style of lettering and in the dotted border, and most notably in the addition of the words OFFA REX, which appear upside down within the central Arabic inscription of the reverse. The Arab dinar, which with the besant formed the main gold currency of the world at this period, probably came to England through Charlemagne's relations with Haroun-al-Raschid. A silver tetradrachm of Timarchus (one of three known), and a double denarius of Germanicus, of which only one other specimen is known, may also be mentioned, together with the gift by Sir R. H. Lang of a collection of Greek coins from Cyprus.

The special Parliamentary grant for the assistance of schools of art has been devoted to the supply of (1) casts of ancient sculpture, (2) facsimiles of illuminated manuscripts, (3) electrotypes of Italian Renaissance medals. Gifts of official publications have also been made to many local libraries and museums.

SAND AND COARSE MATERIAL AND PROPORTIONING CONCRETE.*

IN correctly made concrete the amount of sand should be just sufficient to fill the voids in the coarse material, and the amount of cement just sufficient to fill the voids in the mixture of sand and coarse material and to coat all the particles with very thin jointing layers. It is a rational assumption that such concrete will give a maximum of strength with the minimum of cost, and if such assumption be justified by experimental results, it follows at once that the proportioning of concrete-forming materials is of the utmost importance. Greater strengths can be obtained by the use of excess of cement, as in the case of the ordinary mix of 1-2-4, but the increase in strength is less than the increase of cost of materials, and is, therefore, only justified in particular cases.

The strength of any concrete will depend not only upon the materials and their proportions, but also upon the method of using those materials. Any void in a mass of $\frac{3}{4}$-in. coarse material may be filled in many ways. Firstly, it may be filled with cement and sand mortar as in the 1-2-4 concrete; secondly, it may be filled with a piece of stone which practically fills the whole space; and, thirdly, it may be filled with a number of stones, which vary in size, with a minimum amount of cement and sand mortar. The first filling is composed almost wholly of joints, and on that account is weak; the second filling is strong, owing to the absence of joints, but it is impracticable; but the third is a compromise which is not only practicable, but also strong. The amount of the variations in size or the grading will depend upon the nature and quality of the work required. On the one hand there will be a good but costly filling, and on the other a cheap but still good filling; but whether the

* Summary of a Paper read before the Concrete Institute on "Sand and Coarse Material and Proportioning Concrete," by Mr. John A. Davenport, M.Sc. (Vict.), B.Eng. (Liverpool), Assoc.M.Inst.C.E., A.M.I.Mech.E., M.C.I., and Professor S. W. Perrott, M.A.I. (Dublin), M.Inst.C.E., M.C.I., Professor of Civil Engineering at Liverpool University.

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gradation be large or small, the filling will be better than one of cement and sand mortar only.

With a view to testing the effect of "proportioning" upon the strength and other properties, and also the cost of concrete, the authors drew up a series of experiments, the intention being to test compressive strength, modulus of rupture, specific gravity, water resistance, and fire resistance. Various difficulties arose in the course of the work which prevented also the inclusion in the report of specific gravity, water resistance and fire resistance tests. The series involved 216 test pieces, to which must be added others prepared for water and fire resistance and specific gravity tests, but which could not be tested in the time available. The voids were measured in a patent apparatus designed by Mr. Davenport, which gives results to one-fifth of 1 per cent., and which was found to be independent of the observer. The preliminary data comprised tests on Portland cement (which was Martin, Earle & Co.'s brand "Rhinoceros"), size of granite chips, volume of chips per batch, percentage volume of voids in chips, sizes of river-sand used, volume of sand used per batch, percentage volume of voids in sand, and the volume of cement used per batch. Regarding the latter item, it must be noted that no allowance was made for the excess cement required for jointing, only the amount required to fill the voids being used. Had time permitted it, the correct allowance in each case would have been ascertained and additional tests made therewith. The limited time made it impossible to test the cement before using it for the concrete test pieces, the brand only suggesting its probable good qualities.

The batches were hand-mixed by engineering (senior honours) students, and as no special means of testing the thoroughness of the mix were adopted, the resulting concrete will probably not compare favourably with machine-mixed so far as uniformity of results go. Every care was exercised, however, in the mixing to get all the materials thoroughly intermixed and apparently uniform. This proved to be the case when the specimens were tested. The moulds were made of planed boards, bolted together in gangs, damped before using, and lined with paper on the under side to facilitate removal. In spite of this, several pieces were damaged in removal, due more particularly to the relatively small sections used.

Immediately after mixing the moulds were filled and left in a tool-shed till required for testing. They were wetted regularly every three or four days.

It was found that the ratio of compressive to tensile strength varied more in the one-month than the three-month tests, and is not sufficiently uniform to base any conclusions upon, beyond the fact that such ratio is not constant. It is considered by the authors, however, that this ratio should be more or less constant, as the failure, whether compressive or tensile, depends upon the adhesive strength of the cement.

The ratios strength at three months to strength at one month were more or less uniform, more particularly in the case of compressive strengths. In the case of 1-2-4 concrete the modulus of rupture appears to increase more rapidly than the compressive strength, while in the other series, with cement accurately proportioned, the compressive strength increases more rapidly than the modulus of rupture, as out of six series only one runs the other way, probably due to rather dry mixing of those three-month test pieces.

Although the cement tests are unsatisfactory, it will be possible to compare the strengths and costs of the concrete in the different series, as they will probably all be affected to the same extent. The most important point brought out by comparison is the fact that for accurate proportions the ratio $\frac{\text{Cost of Cement}}{\text{Total Cost}}$ is practically constant for all gradings taken in the tests, so that when the graded coarse material is used the total cost need only be further considered. Of course, the total cost is always the final criterion as regards economy, and it may be suggested that the ratio cost of cement to total cost need *not* be considered. But the relative values of total cost obtained may be altered when additional tests are made at other ages, and it is difficult to say whether they will be affected by the ratio, so that if it can be shown conclusively that this ratio is constant or nearly so, the total cost, age and proportions need only be dealt with.

The authors do not feel justified in attempting to generalise from the results given in the tables, as they consider such results do no more than open up the subject of proportioning and grading in relation to cost. They have no hesitation, however, in saying that the figures given by them show conclusively that the subject is well worth being made the object of special research, and while they cannot promise additional results for any special time, will continue the work and hope to place their results before the Institute at some future date.

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. FRANCIS BUMPUS.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

(*Continued from page* 213.)

THE RENAISSANCE.

GHIBERTI'S pair of gates consists of scenes from the life of Our Lord, the lower panels being filled with figures of the Evangelists, and of the four Doctors of the Latin Church. The order in which the scenes are represented is from below upwards, beginning with the Annunciation in the left-hand panel, and terminating in the right-hand top one with the Descent of the Holy Ghost.

Ghiberti was occupied with his assistants on this gate from 1402 to 1424, and it gave so much satisfaction to the Florentines that he obtained from them the commission for the second gate, which illustrates the Old Testament.

In judging of these gates it is well to remember Ghiberti's words: "I have done my best in all respects to imitate Nature, so far as was in my power." He was a collector of works of the ancient sculptors, but he did not consider it requisite to be bound by their restrictions. The laws of relief were set aside by him, in order to imitate, as he says, Nature in all respects. If painting were allowed to depict remote distances in backgrounds, and to place figures wherever they would be effective, why should sculptors have but one plane to work upon? In this way we can imagine Ghiberti reasoned; and to appreciate his work we should look at it from his own point of view.

If judged by a rigorous canon, the gates could hardly be esteemed as worthy of Paradise. The planning of the panels is often defective, though aiming at pictorial effects, much in the same way as a great deal of the later Renaissance stained glass and a great deal of the work executed in modern times has failed; but this cannot detract from the vigour and expression of the figures, the dramatic skill with which each scene is presented, and the delicacy of the execution.

Ghiberti belonged to a period of the Renaissance when artists had a manner more graceful, more natural, and better ordered than that of their predecessors, and when statues began to resemble living persons. But Ghiberti has done more. He has shown in this gate of San Giovanni invention, order, manner, and design, so that his figures seem to move and to have a soul.

It is this animation which impresses everyone who looks at these gates, and condones for all the shortcomings in arrangement. As George Eliot makes one of her characters in "Romola" say: "These heads in high relief speak of a human mind within them, instead of looking like an index to perpetual spasm and colic."

In the works of Early Renaissance artists drapery assumes supreme importance, as may be seen by comparing the Silenus of Nicola Pisano with its antique original. The figures in Ghiberti's panels—which are sexfoiled like Andrea Pisano's—are enveloped in a superabundance of stuff which must have formed a contrast with the severe style of the Florentine garb, but the skill in arranging the drapery is greater than is seen in Pisano's groups. Ghiberti adopted the principle of radiation, and few masters so constantly made use of it.

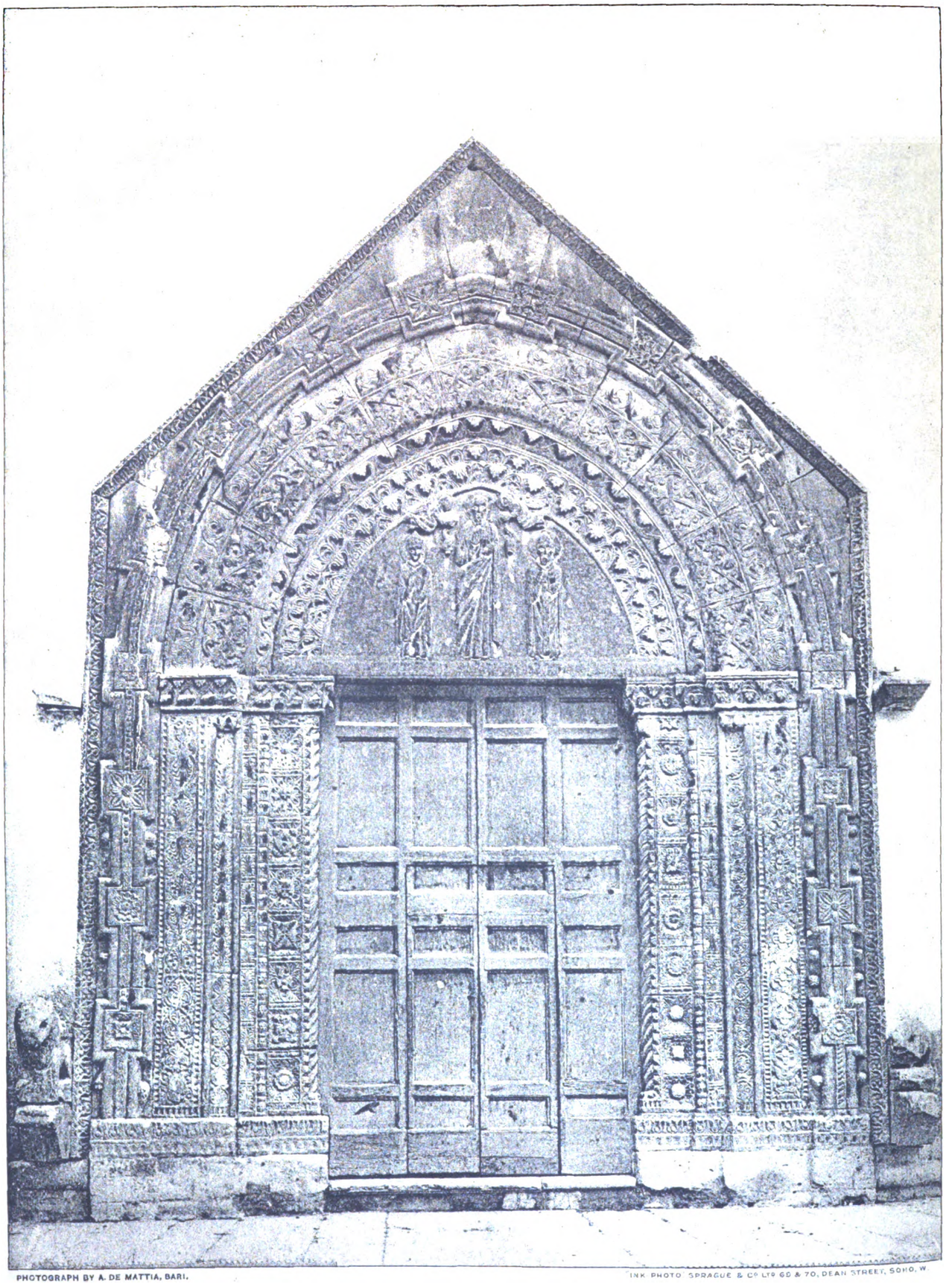
In all the figures on the gates it is exhibited, and, indeed, if the radiating folds were erased not much to suggest drapery would remain. In some figures more than one point to which the lines converge will be found, but generally there is a principal centre, and the folds fall from it in one direction. Nothing can be simpler than this principle, but there is no monotony in its application, and the success with which drapery arranged in precisely the same way can be made to contrast is seen in many figures placed side by side in the panels.

We may now pass on to consider the second phase of the Italian Renaissance, when more purely Classical forms, though modified by the taste and elegance of that people, had eliminated almost every trace of the Gothic, and before

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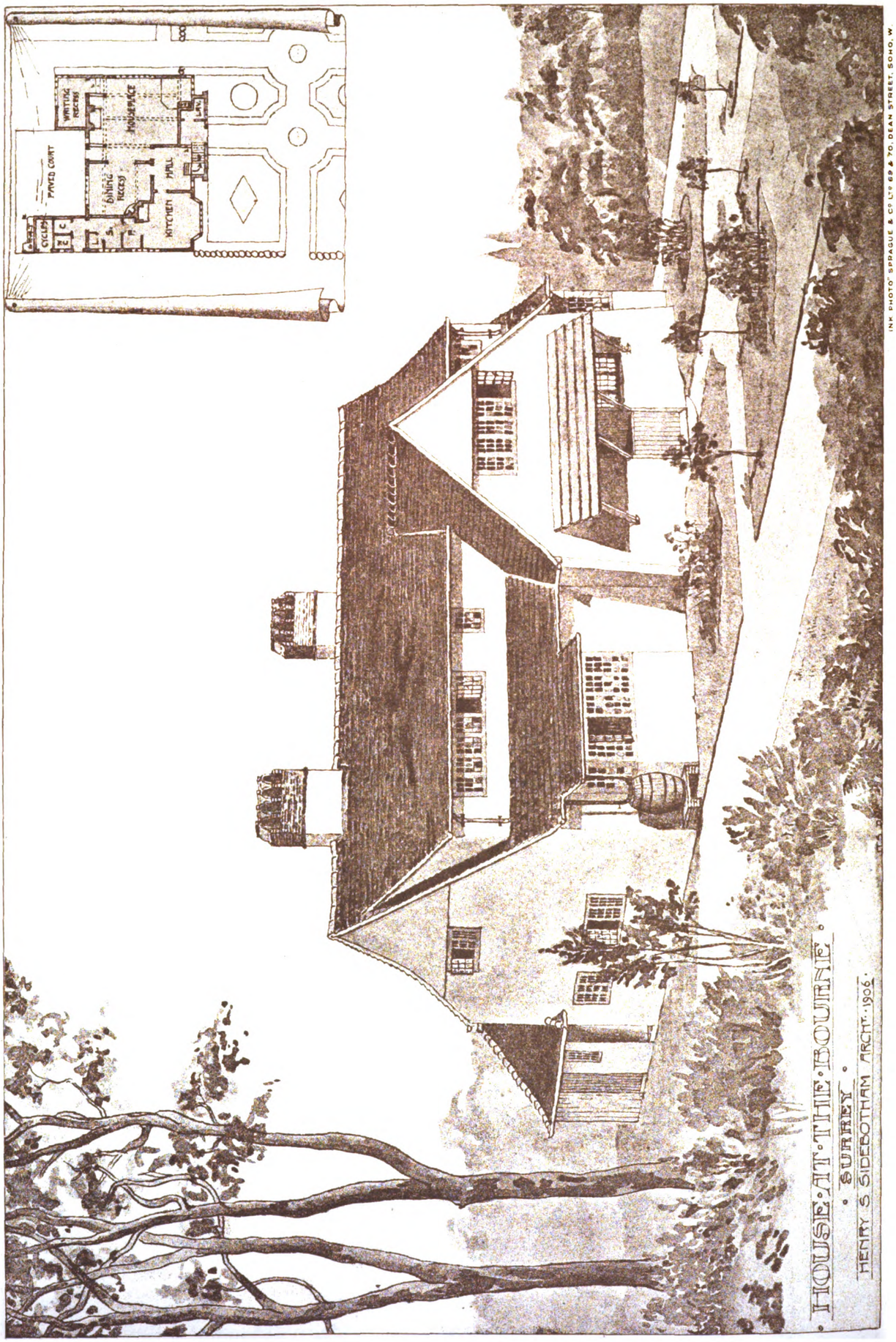
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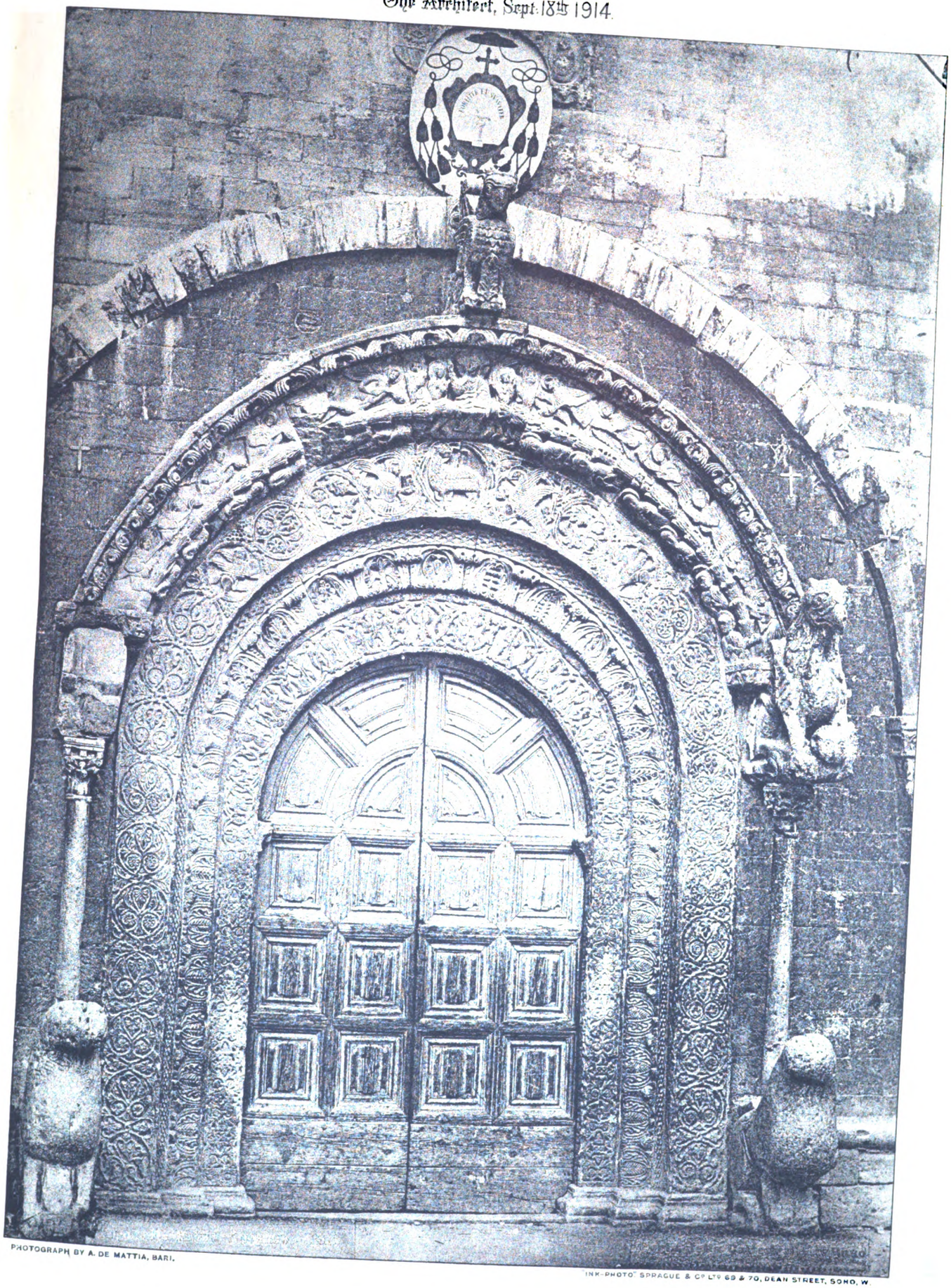
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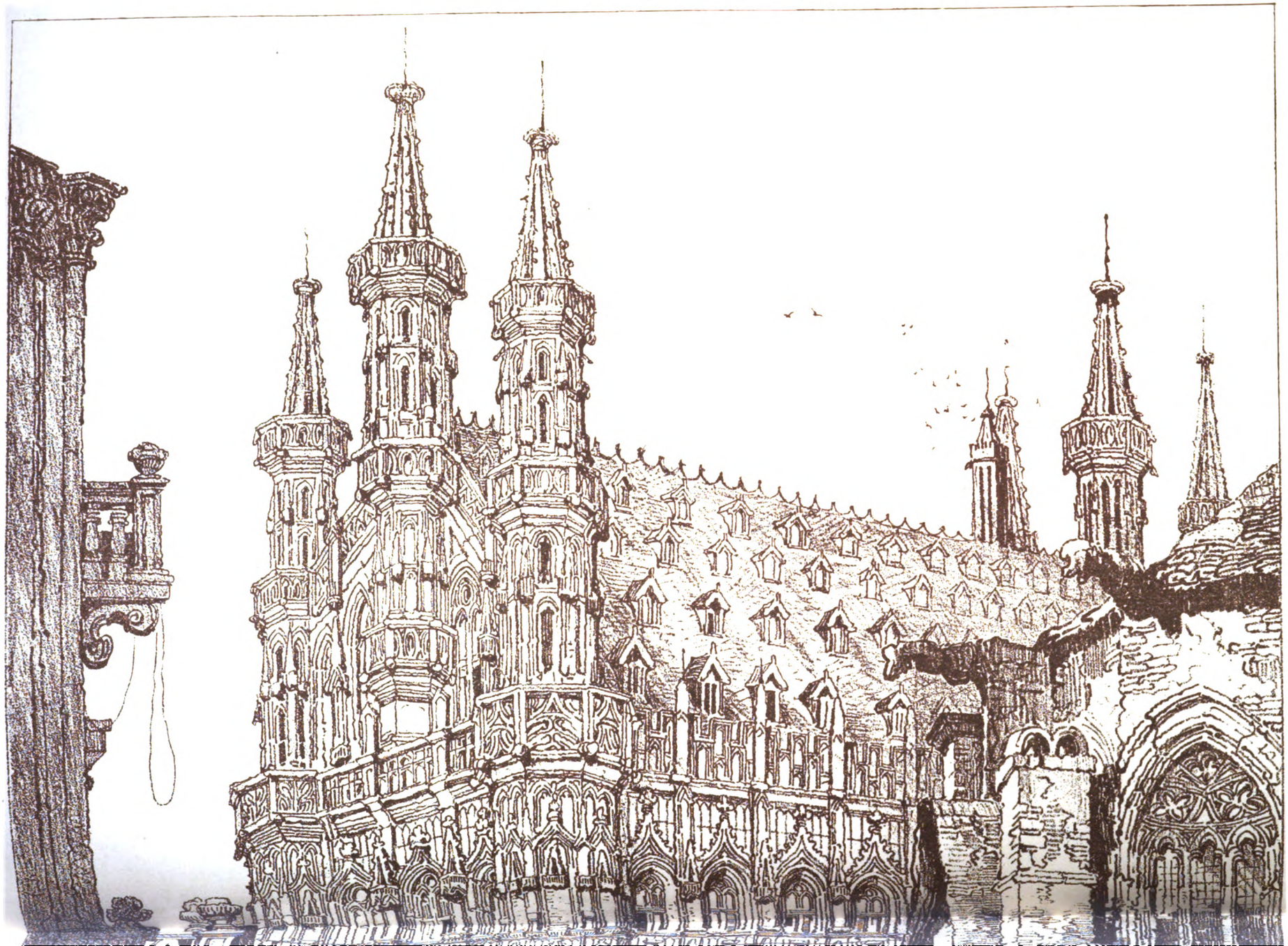
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the corruption of taste, ere very long to be especially manifest in all the forms of artistic creation appropriated to sacred uses, began to announce itself in every walk.

The first indications of a change, gradually alienating from the higher and purer models, appear rather earlier in Rome than in other Italian capitals; but there is a wide difference between the works of the fifteenth and those of the latter half of the sixteenth century; nor did that Renaissance which sprang from Paganism of feeling manifest itself in the days of Raphael and Bramante as in those of Guido and Bernini. The Rome of Nicholas V. and Sixtus IV. had a school distinguished by worthier qualities than under the reign of Paul V.; and the last additions to St. Peter's, the modernised exteriors of the other great basilicas, the tasteless transformation, partial or complete, of the Lateran, and of the cathedrals of Assisi, Ferrara, Pistoja, Ravenna, and Viterbo, besides that of countless churches throughout the length and breadth of the land, indicate the last stage in the decline of sacred architecture.

The antecedent change in that architecture, first apparent towards the close of the fifteenth century, is characterised by other and some commendable features, among which may be pointed out the façades with flat pilasters rising to the entire height, the cornices carried along the sky-line, and the triangular or pyramidal front; the sculptured ornaments, trophies, emblems, &c., in low relief around doorways; the groined vault substituted for the richly ornamented flat ceiling, and the quadrate pilasters sometimes with half columns resting against them; the capitals (always in antique style) that support round-headed arches, and the introduction of the cupola, succeeding to the fine old belfry towers, but in only a few instances presenting much freshness of thought or originality of invention, a novelty first displayed (in Rome at least) in a good example at Sant' Agostino. Almost all public buildings in that city of the time of Sixtus IV. were assigned to the Florentine architect, Baccio Pintelli. To him are due the designs for the principal church of the Augustinians, raised by the Cardinal d'Estonteville, protector of that order; Sta Maria del Popolo, rebuilt from its foundations in 1477; the façade of San Pietro in Montorio, founded by Ferdinand and Isabella of Spain to honour the supposed site of St. Peter's martyrdom (1500); the pillared atria of Santi Apostoli and San Pietro in Vinculis; Sta Maria della Pace, built by Sixtus IV. in gratitude for the peace recently effected between the Italian States, which he ascribed to the intercessions of the Madonna in answer to his prayers before an image here enshrined; also that chapel of the Vatican, called "Sistine" from the same Pope, its founder (1473), which cannot be said to have any architectural character, except in so far as it presents appropriate surfaces for pictorial decoration. In 1473 the ancient Dominican church, San Sisto, on the Appian Way, and in 1485 the Franciscan Araceli on the Capitol, were mercilessly restored or renewed.

A good example, due also to the architect Pintelli, is the small cathedral of Ostia, built by the Cardinal Bishop who became Pope as Julius II., with façades of graceful character; also at the town of Vicovoro, near Tivoli, the collegiate church and the baptistery, an octagon of Italian Gothic style, rich in sculptured ornament, both by Simone, a Florentine, the pupil of Brunelleschi.

The sculpture of this period is more strikingly characterised, and serves better to evince the progress of ideas than the architecture of the same era. A certain emancipation from the exclusive dominion of the traditionary and the theological is recognisable in it; for instead of the prescribed figures of apostles and saints, allegorical personages, the cardinal and theological virtues, usually as statuettes in arched niches on the surface of the pilasters are introduced, often indeed together with more familiar subjects. On the centre panel is some sacred group in relief, usually the Blessed Virgin and Child, attended by angels or apostles, or by some patron saint who presents the kneeling figure of the deceased, or donor, to the Madonna.

In the allegoric subjects the treatment of symbolism has, sometimes, little or no accordance with Christian ideas, as in the admired bronze monument of Sixtus IV. at St. Peter's, where the figures of Virtues and Sciences surrounding a framework in low relief seem scarcely admissible into the sacred place.

On monuments the deceased is still, as formerly, represented in a recumbent portrait statue, often very affectingly treated; while on the sarcophagus below, and on the pilasters, or other surfaces, ornamental reliefs, trophies, garlands, symbols (in which the Pagan is sometimes blended with the Christian) are introduced, not always in the best taste.

The rich graceful canopies, twisted columns set with mosaic, and mouldings of the Gothic tabernacle, the pendant curtains drawn aside by angels to display the figure laid on the tomb, give place to elaborate architectonic structures in white marble, like Classic ædiculæ, with pilasters, friezes, horizontal pediments or triagular tympana. More purely Classic is a new form of sculptured altar-piece, with statuettes in niches, ornamental reliefs, friezes, and in some instances the half figure of the Supreme Being with a globe in one hand, and giving benediction on the tympanum.

With the advent of Bramante d'Urbino to Rome in 1499 a new period was ushered in for the architecture of that city, the influence of which so transformed his style that he became, when nearly sixty, and after a long course in northern Italy, the founder of the Middle Renaissance style. His first known work at Rome, the circular tempietto at San Pietro in Montorio (1500-02) is considered to be one of the earliest productions of the Renaissance, breathing in every part the pure spirit of antiquity. The interior of Sta Maria del Popolo (1509) is an adumbration of what Bramante could have done had he carried out his plans for St. Peter's, and is full of interesting effects and details. Elegance and lightness characterise Bramante's style; all superfluous detail is eliminated, and the minor parts are kept well in subordination.

At an early age Bramante's talents were directed to painting, but he quitted it for the mistress art of architecture, having studied and measured the principal ancient buildings in Rome and the remains of the Villa Adriana at Tivoli.

His chief patrons were the Cardinal Caraffa, the Popes Alexander VI. and Julius III., and the Duchess Eleonora Gonzaga, the latter of whom commissioned Bramante to build a palace for herself and her husband, the Duke d'Urbino. The greatest work of this architect was undoubtedly the rebuilding of the old basilica of St. Peter's at Rome, his plans for which were the greatest mine for architects for half a century, and inspired countless churches, not only in Rome and its vicinity, but throughout Italy.

In his design for St. Peter's he equalled, if he did not surpass, the ancients in the massiveness and unity of treatment which pervades the whole edifice.

Strongly impressed with the grand proportions of the Pantheon, which, no doubt, he had studied in the days of his pupilage at Rome, Bramante founded his design on this model, and made his cupola of similar dimensions, adding the four arms of the Greek cross, forming when completed a building of unequalled vastness and grandeur.

Bramante could boast of having Raphael for a pupil and Michel Angelo for a friend and adviser, and the great sculptor states his opinion that "Bramante is superior to all others since the time of the ancients."

(To be continued.)

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BUCKINGHAMSHIRE.

Amersham.—Council cottages, Back Lane. Mr. T. Thurlow, architect, 25 High Street, High Wycombe.

CAMBRIDGESHIRE.

Whittlesey.—Workmen's dwellings (£2,650).

CHESHIRE.

Macclesfield.—Public Elementary School, Lansdowne Street, Hurdsfield (for about 500 places).

CORNWALL.

St. Columb Major.—Block of six houses, Trekenning, for R.D.C.

Truro.—Public elementary school (for about fifty places).

DERBYSHIRE.

Heanor.—Works: extensions, for Messrs. I. & R. Morley. Messrs. Sutton (F.R.I.B.A.) & Gregory, architects, Bromley House, Angel Row, Nottingham.

DEVON.

Holsworthy.—Five workmen's cottages.

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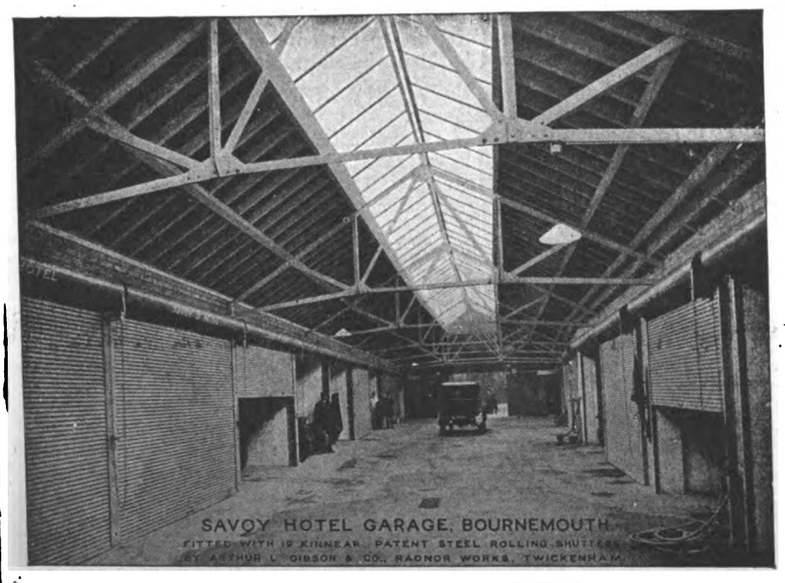
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DORSET.

West Moors.—Proposed Parish Hall (£600).

DURHAM.

Brandon and Byshottles.—Isolation Hospital.

Houghton-le-Spring.—Fire Rescue Brigade Station, Hetton Road: three additional cottages.

Wheatley Hill.—Eight houses, for Messrs. R. Gregory, W. Hunter, J. Welsh, and J. Ward.

ESSEX.

Harwich.—Eight workmen's houses. Mr. F. H. French, Council surveyor.

HERTFORDSHIRE.

Watford—Workhouse: infirmary and nursery (£14,500). Mr. A. O. Breeds, architect, 26 Portugal Street, Lincoln's Inn Fields, London.

KENT.

Whitfield.—Post Office and house for Mrs. G. Bean.

LANCASHIRE.

Accrington.—Ten houses. Whalley Road, Clayton-le-Moors, for Miss S. J. Dean.

Ashton-under-Lyne. — Electricity Works: extensions (£42,000).

Textile School: alterations (£500).

Chorley.—Workhouse: proposed new vagrant wards.

Fleetwood.—North Euston Hotel: alterations, for Mr. J. W. Fish.

Haslingden.—Workhouse: extension, &c., of bakehouse and laundry. Mr. H. Ross, A.R.I.B.A., architect, 15 Cannon Street, Accrington.

Heaton Mersey.—Bank Hall: adaptation as open-air residential school (£3,900).

Hindley.—Council School, Moss Lane, Platt Bridge (£6,450).

Manchester.—Jewish Hospital, Elizabeth Street, Cheetham: alterations.

Housing scheme, Temple Estate (£30,000).

Middleton.—Eight houses, Mount Road; also eight houses, Uplands, for the Alkrington Housing Society.

Tyldesley.—Town Hall, Fire Station, &c. (£7,700).

LEICESTERSHIRE.

Eaton.—The "Castle" Hotel: additions, for Messrs. Adcock, Pacey & Co.

Leicester.—Council School, near Narborough Road.

Somerby.—Village Hall.

LINCOLNSHIRE.

Ashby.—Council School. Messrs. Scorer & Gamble, AA.R.I.B.A., architects, Bank Street Chambers, Lincoln.

MIDDLESEX.

Hayes.—Factory: additions, for the "X" Chair Patents Company.

Four houses, Cromwell Road, for Messrs. Tanton, Ballast, and others.

MONMOUTHSHIRE.

Blackwood (near).—Proposed Baptist Church, Garden City.

NORFOLK.

Brancaster.—Houses (£1,200), for Docking R.D.C.

Costessey.—Six cottages (£1,100), for Foreshore R.D.C.

NORTHAMPTONSHIRE.

Northampton.—Post Office, St. Giles Street.

Peterborough.—Proposed cottage homes, for B.G.

NORTHUMBERLAND.

Alnwick.—Workmen's houses, South Road (£7,000).

Newcastle-upon-Tyne.—City Hospital, Walker Gate: tuberculosis wards, &c.; also laundry and mortuary (£5,350).

Armstrong Park: lodge and ladies' lavatory.

NOTTINGHAMSHIRE.

Arnold.—Cinematograph Theatre, for the St. Alban's Picturedrome, Ltd.

Mansfield Woodhouse.—Fourteen houses, Morven Avenue, for Mr. A. Monks.

House, Church Hill, for Mr. A. Vickers.

SHROPSHIRE.

Culmington.—Parish Hall. Messrs. Alexander & Duncan (of Leominster), architects.

SOMERSET.

Taunton.—Sewage Works: house. Mr. D. E. Edwards, A.M.I.C.E., Borough surveyor.

STAFFORDSHIRE.

Cannock.—Workhouse: quarantine home for ten boys and ten girls.

Stoke-on-Trent.—Council Schools.

Wednesbury.—King's Hill School: extensions. Mr. C Joynson, architect, Springhead.

SURREY.

Epsom.—Sixty houses. Mr. A. C. Williams, architect, East Hill House, Station Road.

Kingston-on-Thames.—Council School, Tiffin Street. Messrs. Jarvis (A.R.I.B.A.) & Richards, architects, 10 Queen Anne's Gate, London, S.W.

WARWICKSHIRE.

Atherstone.—Sixty workmen's houses.

WILTSHIRE.

Chisledon (near).—Barracks, South Barn, Burderop.

WORCESTERSHIRE.

Bromyard.—Four Council cottages.

Evesham.—Joint hospital: administrative block enlargement; also proposed tuberculosis pavilion.

Kidderminster.—Proposed children's homes, for B.G.

YORKSHIRE.

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Bilton.—Public elementary school for 100 places.

Bramley.—Business premises: extensions, for Masbrough Co-operative Society.

P.M. Church at the Model Village.

Elland.—House, Broad Carr, for Mr. E. W. Crossley.

Presbytery, West Vale: additions, for Father Healy.

Shops, Southgate, for U.M. Trustees.

Greetland.—St. Thomas's Sunday School and Institute Messrs. Jackson & Fox, architects, 7 Rawson Street, Halifax.

Halifax.—St. Mark's Church. Messrs. Walsh & Nicholas, architects, 10 Harrison Road.

Hellaby.—Church.

Horbury.—Forty-two workmen's dwellings, Northfield Lane.

Hull.—Willerby Asylum: extensions. Mr. J. H. Hirst, City architect, Guildhall.

Middlesbrough.—Council School, Grove Hill.

Sheffield.—Hospital for Infectious Diseases, Lodge Moor: extension (£68,000).

Shipton.—Smallpox Hospital, near Waterford Ghyll.

York.—Works, Haxby Road: extension, for Messrs. Rowntree & Co., Ltd.

WALES.

Bagillt.—Thirty workmen's houses (£7,700), for Holywell R.D.C.

Barry.—Twelve Council houses, Victoria Road.

Denbigh.—Church Institute.

Holywell.—Twenty-two workmen's houses (£5,230).

Shotton.—Twenty houses, for Hawarden R.D.C.

SCOTLAND.

Arbroath.—Smallpox hospital, Little Cairnie. Mr. P. C. Smith, Burgh engineer.

Dalmuir.—West U.F. Church.

Dysart.—Blairhill School. Mr. W. Williamson, F.R.I.B.A., architect, Royal Bank Buildings, Kirkcaldy.

Edinburgh.—Maltings, Lyne Street: re-building, for Messrs. A. Campbell, Hope & King, Ltd.

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Strahan.—School, for Kilmallie School Board. Mr. J. G. Falconer, architect, 22 Alexandra Place, Oban.

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IRELAND.

Dublin.—Cinema Theatre, South Great George's Street. Mr. G. L. O'Connor, F.R.I.A.I., architect, 42B Great Brunswick Street.

Dunboyne.—House. Messrs. McDonnell & Reid, architects, 20 Ely Place. Messrs. G. Squire & Co., contractors, 12 Upper Abbey Street, Dublin.

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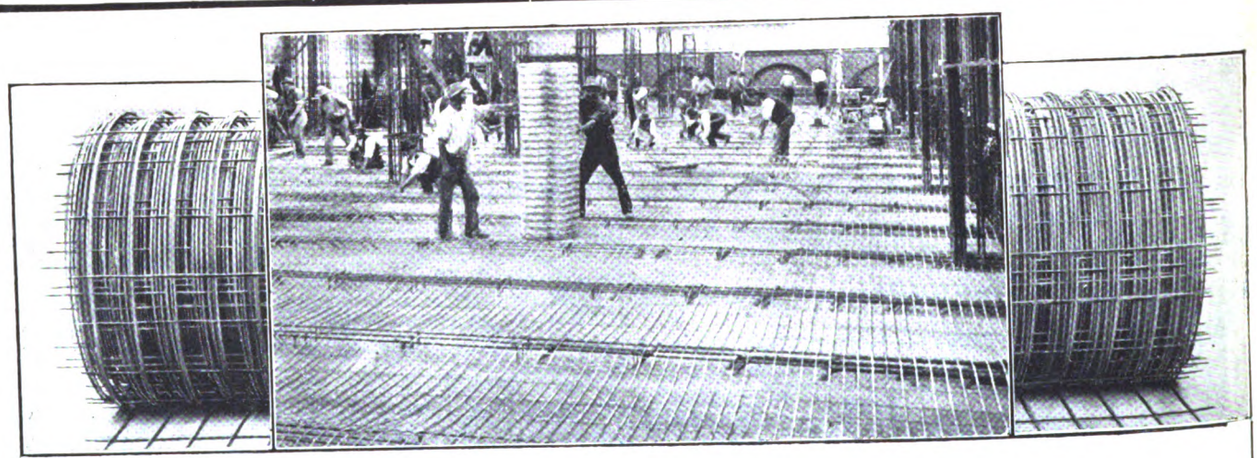
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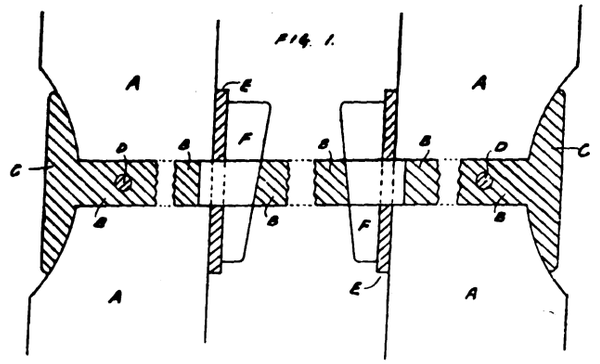
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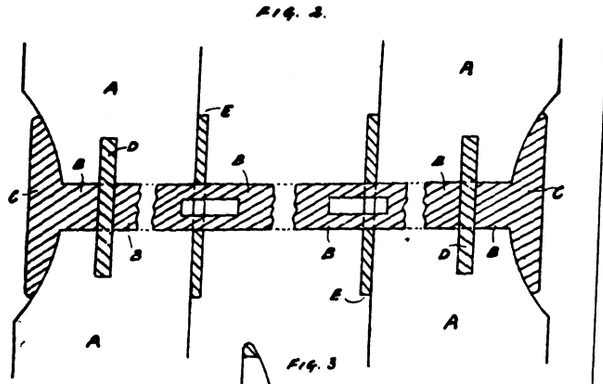
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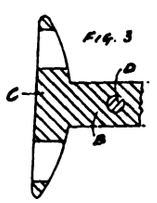
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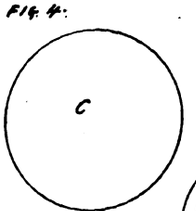
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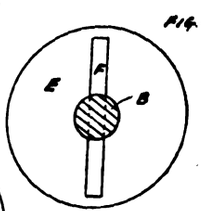
No. 21,893. September 29, 1913.—Combined ties and struts for walls, arches, vaults, and domes. Frederick Thackeray, 3 Cambrian Terrace, Gwaelodygarth Road, Merthyr Tydfil, Glamorganshire, Borough Architect. This invention relates to combined ties and struts passing through slabs which form walls, arches, vaults, or domes. The combined ties and struts are of the kind in which pins are

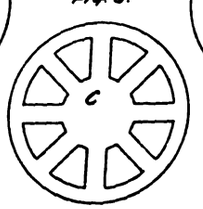


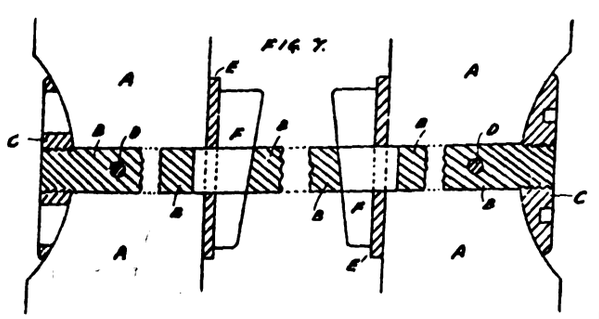












inserted through the metal to bear against the inner faces of the slabs. By this invention each combined tie and strut has along the shaft two or more slots for wedges to keep the slabs the required distance apart, and at the same time wedge the slabs against the heads. Thus, for a wall made up of an outer vertical slab and an inner vertical slab with a cavity between the slabs, the combined ties and struts would pass through the two slabs or pass through joints of wall slabs and also across the cavity. The heads at the ends of the ties would prevent the slabs from bulging, and the wedges inserted in the slots of the ties inside the cavity would form struts for keeping the slabs the required distance apart as well as for tightening the slabs against the heads of the ties, and thus clamp and lock all together with required cavity between. By withdrawing the wedges from the shafts or ties the wall could be taken to pieces for rebuilding, and in these cases the wedges would have a small hole through the top part for passing a hook through down the cavity for drawing up the wedges. The lengths of the combined ties and struts may be varied to suit the various thicknesses of walls required or to suit the various thicknesses of parts of walls required. For walls made up of a number of vertical slabs with cavities between the slabs the combined ties and struts may pass through all the slabs and across all the cavities, and sets of slots and wedges may be provided for each intermediate space or cavity crossed between the slabs. The cavity spaces may be left without filling or the cavity spaces may be filled with clean sand or gravel. Arches, vaults, and domes formed with curved slabs would have combined ties and struts applied in exactly the same way as for walls already described. The letter A indicates slabs, B indicates shafts of ties, C heads of shafts, D cross pins through shafts to prevent turning, E indicates washers, and F wedges fitting in the slots of the shafts, and pressing against the washers to act as struts to clamp the slabs. Fig. 1 shows a section of a combined tie and strut. Fig. 2 is a sectional plan of Fig. 1. Fig. 3 is a section of an open kind of head for shaft as shown in elevation in Fig. 6. Fig. 4 shows an elevation of a solid kind of head. Fig. 5 shows a section of shaft and with elevation of edge of wedge. Fig. 7 shows a section of a combined tie and strut with two kinds of heads screwed to shaft. July 8, 1914.

PATENT SPECIFICATIONS PUBLISHED SEPTEMBER 10, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 18,736. Aug. 18, 1913.—James Shannon and Frederick Hammond, Percival House, Percival Street, E.C. Water heaters.

18,806. Aug. 19, 1913.—E. R. Sutcliffe, of New York, U.S.A. Slag for the manufacture of bricks.

18,995. Aug. 21, 1913.—H. J. Yates, Essex Works, Thimble Mill Lane, Aston, Birmingham. Gas fires.

19,027. Aug. 21, 1913.—J. W. Revy, 181 Queen Victoria Street, E.C. Toasting ovens and the like.

19,083. Aug. 22, 1913.—Walter Ramsay, architect, 48 Deodar Road, Putney. Refuse destructors.

19,142. Aug. 23, 1913.—David Dunbar, Ashdale, 86 Dixon Avenue, Glasgow. Filtering of water and other liquids.

20,087. Sept. 5, 1913.—John Stratton, The Lindens, Winton Road, Bowden, Cheshire, and E. A. Claremont, Broom Cottage, High Legh, Cheshire. Glazing bars.

20,401. Sept. 9, 1913.—Dated under International Convention Nov. 4, 1912. Herman Rosenberg, Elm Park, Port Richmond, Staten Island, New York, U.S.A. Manufacture of varnishes.

21,050. Sept. 17, 1913.—C. G. Major, P. H. Stevens & Smith, Major & Stevens, Ltd., Abbey Works, Weedon Road, Northampton. Electric locks for lift gates and doors.

22,351. Oct. 3, 1913.—Franz Girlot, 29 Avenue Louis Bertrand, Brussels. Blocks for building purposes.

22,778. Oct. 9, 1913.—Jacob Grossmann, 157 Plymouth Grove, Manchester. Method of and apparatus for concentrating sewage sludge.

23,268. Oct. 15, 1913.—C. H. Freeman, 30 Stephenson Street, Wolverhampton. Wood roofs.

23,278. Oct. 15, 1913.—James Anderson, Braemore, 4 Rankine Street, Dundee. Kitchen ranges.

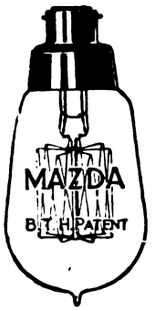
23,446. Oct. 16, 1913.—W. R. Twigg, Woolverton, Westbourne Road, Luton, Beds, and David Williams, 25 Oakden Street, Kennington Road, S.W. Heated radiators.

23,779. Oct. 21, 1913.—J. J. James, Dutson & Co., 11 Whittall Street, Birmingham. Drawer pulls, cash lifts, and the like.

26,416. Nov. 18, 1913.—S. H. Ellis, 13 Lichfield Street, Hanley, Stoke-on-Trent. Hand apparatus for dipping tiles, ceramic, or other like ware into liquid glaze or colour.

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KEYSTONA White is supplied of heavy consistency, requiring one to one-and-a-half pints of Turpentine or Turpentine substitute to the gallon for proper working consistency, reducing the cost from 1/6 to 2/- per gallon.

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SOME RECENT JOBS EXECUTED IN KEYSTONE: Chester, Chadderton and Leeds Town Halls; Borough Sanatorium, St. Helens; Masonic Buildings, Birkenhead; Meccano Works, Liverpool; Geographical Buildings and First-class Dining Rooms, Central Station, Manchester; St. James's Church, Museum and Annexe of Infirmary, Oldham; General Hospital, Fine Art Academy, and Royal Hotel, Bristol; Pulteney and Empire Hotels, Bath; Queen's Hotel, Aberystwyth; St. Jude's and Christchurch, Sheffield; and numerous other Churches, Chapels and Schools thoughout the country. A very large job at present in progress is the Southmead Poor Law Infirmary, Bristol.

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23,538. Oct. 17, 1913.—Dated under International Convention Oct. 21, 1912. L. P. Basset, 43 bis rue des Chesneaux, Montmorency (Seine et Oise), France. Process of manufacturing cement or hydraulic lime from sulphate of lime.

26,869. Nov. 22, 1913.—W. C. Watson, P.O. Box 4,794, Johannesburg. Disinfecting attachments for flushing cisterns.

28,257. Dec. 8, 1913.—John Young, R.N. Retired, 19 Fairview Avenue, Clontarf, Dublin. Ball and float valves.

28,964. Dec. 16, 1913.—C. A. Ripper, Eden Street, Arncliffe, near Sydney, N.S.W. Gas stove or range and attachments therefor.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Architects Enlisting.

SIR,—Since your last issue recruiting for the Royal Engineers has stopped, but it may start again any day. This being the case, I am keeping a list of men who desire to join this corps, and I should welcome additional names, so that we may send up as big a draft as possible when recruiting restarts.

For those who cannot wait I have made arrangements for them to join the infantry, and to be kept together in one company.—Yours faithfully,

ALAN POTTER,
Hon. Sec., A.A. War Service Bureau.
18 Tufton Street, Westminster, S.W.: Sept. 16, 1914.

Architectural Association War Service Bureau.

SIR,—A special branch of the Motor Transport Corps is now being formed to collect and repair the numerous cars attached to the Allied Forces in the field. A limited number of recruits are required immediately. Every man applying must be a mechanic, skilled in motor repairs, and he should state whether he can bring his own car or motor-cycle. Pay for the lowest rating will be 3*s.* 3*d.* a day. As the corps is expected to leave England shortly, recruiting must be rapid, and men wishing to join who have the necessary qualifications should communicate with me at once.—Yours faithfully,

ALAN POTTER.
Hon. Sec., A.A. War Service Bureau.
18 Tufton Street, S.W.: Sept. 16, 1914.

The Birmingham Architectural Association and the War.

SIR,—At a Council meeting of the Association held on the 4th instant, it was decided to open a list for those wishing to join the City Battalion of Lord Kitchener's Army, so that the names may be forwarded to the proper quarter and steps taken to enlist all architectural men together.

We need hardly point out to every able-bodied man belonging to the Association the importance of joining this force. Our country needs every man she can get, and we feel sure that the members of our profession in this city will not be found wanting to fight against those who have so ruthlessly and needlessly destroyed the precious symbols of our art.

A roll of honour will be kept, and the names of all joining will be suitably inscribed thereon and kept among the archives of the Association.

The names should be sent as soon as possible to the Secretary.

Anyone not being a member of the Association, but being connected with architectural work, is eligible to join the Architectural Corps.

Those who have already sent in their names to the Lord Mayor are asked to communicate with the Secretary with a view to making the arrangements above mentioned.—Yours faithfully,

G. SALWAY NICOL, President.
JOHN B. SURMAN, } Secretaries.
H. GRAHAM WICKS, }
14 Temple Street, Birmingham: September 7, 1914.

An Income Tax Warning.

SIR,—May I draw your readers' attention to the fact that all claims to be assessed at the lower rates of income tax in respect of earned income should be sent in before the 30th day of this month? Failure to comply with this regulation will result in their being taxed at the full rate of 1*s.* 3*d.* in the £. In order that this relief may be claimed page 3 of the return form No. 11 should be completed.

In cases where the exact income which will accrue between April 6, 1914, and April 5, 1915, is not known, or where it is possible that any earned income will be received between September 30 and April 5, form 38H should be completed, claiming the benefit of the earned rate, which is extended to all incomes not exceeding £2,500 per annum.—Yours faithfully,

The Income Tax Reclamation Association, Ltd.,
WILFRED T. FRY, Secretary.
37 Queen Victoria Street, London, E.C.:
September 10, 1914.

The Supply of Timber and the Price of It.

SIR,—The statements contained in your "Notes and Comments" of September 4 are most apropos with reference to the price of timber owing to the interruption of trade with the Baltic.

Architects and builders, however, will be very pleased to know that the Swedish Foreign Office informed the Swedish shipowners on the 21st ultimo that, according to advices now received from the Swedish Minister in Berlin, Germany had been pleased to declare deals, battens, boards, staves, and packing-case boards to be non-contraband of war.

This attitude of Germany is quite understandable, because she is extremely desirous of keeping friendly with Sweden. The result has been that many new charters have been fixed up, and ship brokers are again trying to obtain offers. Owners are willing to risk their boats in the Baltic, the risk of course being from floating mines. Seven or eight boats during last week have been chartered, and altogether trade is making great efforts to get going again.

I ought to have said that the timber must be carried in neutral bottoms (i.e. in neutral ships), but there is no difficulty in that.

It is still impossible to take timber from Finland, because she is Russian, so that as some of our best joiner's deals come from Finland, the better-class timbers will still be high in price, especially as there is difficulty in loading from the White Sea, on account of the shortage of labour, the conscripts having been called into active service.

At the commencement of the war Russia prohibited the exportation of timber, but she removed this prohibition very soon after it was made. The difficulty is now with the loading.

A friend of mine sent a boat out at the commencement of the war, but it was returned empty because of the prohibition. He had twelve thousand pounds' worth of Archangel deals and boards on order, which would have been very profitable to him during the coming winter, but he told me that he had since cancelled the order because of the difficulties of loading. If it could not be loaded before the White Sea was frozen (and the White Sea ports close earlier than any other timber-exporting ports) he was afraid that they might take fire before they could be loaded at "first open water" in the spring. They have very frequent fires in Archangel on account of the tremendous quantities of timber stocked there, and the difficulty would be for him to prove that it was not his timber that got on fire. It is a very difficult thing to prove after a fire that it is or is not your timber that has been burnt, because there are thousands of other stocks of exactly the same size all piled together.

It seems to me that the position is that we shall be able to take no Finnish and very little Archangel timber, while if timber goes very much higher during the war, American spruce and cheap pitch pine will have to take the place of deal. The bright gleam of sunshine is the exportation of Swedish timber.—Yours faithfully,

J. H. KERNER-GREENWOOD.
King's Lynn: Sept. 10, 1914.

P.S.—Since writing the above I have received information from a very reliable source stating that Finland has shipped about two-thirds of her normal output, so that the total reduction on shipments from Finnish and Swedish ports will not be a very important matter, in view of the fact that the consumption on this side during the war will also be very much less than usual.

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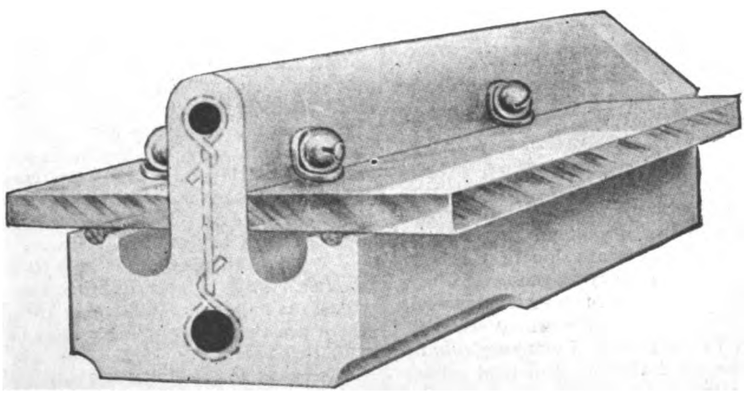
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THE ARCHITECT

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OUR PAINT SUPPLY.

AMONGST the special reports now being issued by the Commercial Intelligence Branch of the Board of Trade with a view to helping our merchants and manufacturers to capture German trade, and which are now over thirty in number, that relating to painters' colours and materials (including varnish) is of peculiar interest to ourselves, and will be also to many of our readers.

The aggregate value of painters' colours and materials (including varnish) exported to all destinations from Germany, Austria-Hungary, and the United Kingdom respectively in a recent year reached the following amounts:—From Germany (1912), £3,162,000; from Austria-Hungary (1913), £219,500; from United Kingdom (1913), £3,286,300. While the United Kingdom is quite an important market for these products for both Germany and Austria-Hungary, the United Kingdom sends little to them in return.

Of the German exports there come to the United Kingdom:—Barytes, £98,000; zinc white, £138,000; zinc grey, £32,000; red lead, £75,000; white lead, £152,000; pure and mixed blues, lakes, &c., of Prussian blue, chrome green, zinc green, £26,000; ultramarine, lakes, &c., of ultramarine, £33,000; zinc powder, £17,000; lithopone (white sulphate of zinc), £47,000; natural and artificial iron oxide (including yellow ochre), roasted, &c., £4,000; umber, sienna, earth, and other unspecified mineral colours, £16,000; bronze (metal) colours, £38,000; chrome colours, £23,000; copper colours (except Schweinfurt green) and other unspecified pigments and lakes, dry or paste, £39,000; colours for colour-printing on paper, prepared from lamp-black or Frankfurt black, printing-ink and Frankfurt black, £8,000; prepared colours, not specified (ground with oil, oil varnish, glycerine, &c.), and unprepared colours in small bags, £17,000; lac varnish, lacquers (not containing spirit), asphaltum, varnish, coachmakers' varnish, japan varnish, £28,000. These make a total of £791,000, more than a quarter of Germany's total exports in painters' colours and materials.

From Austria-Hungary we import:—Zinc white and zinc grey, £9,000; white lead, £10; ultramarine, £40; colours, unspecified, £800; colours in cakes, small bags, pastes, tubes, bladders, flakes, glasses, shells, and boxes, £20; colouring earths, crude, roasted, calcined, ground, washed, compressed, and refined, £300; lithopone, Griffith's white, £1,100; prepared blacks, £15; oil varnish (without addition of resin, turpentine, or mineral oil), in casks, tin, bottles, &c., £15; lac varnish (with resin, turpentine, mineral oil, or spirit), £150. These amount in all to £11,450, a comparatively small proportion of Austria-Hungary's total export of these materials.

Our export trade in painters' colours and varnish consists in part, no doubt, of these materials imported from Germany and more or less forming raw material for our own manufacturing industry. So far as this is the case, it is important for our manufacturers to at once take steps to supply themselves, in order to maintain our existing export business, but in addition to this consideration an examination of the detailed figures brings out clearly the large market there is in the United Kingdom for all such goods, as well as the numerous and valuable opportunities now thrown open in colonial and neutral markets.

The following figures summarise the value of German and Austrian trade now thrown open to the British manufacturer:—

(*a*) In the United Kingdom market:—

	£
German trade (1912)	791,000
Austrian trade (1913)	11,450
	802,450

(*b*) In the Colonial and Neutral markets:—

German trade (1912)	1,321,000
Austrian trade (1913)	78,710
	1,399,710
Grand total	2,202,160

A large quantity of the paints produced in Germany is made in Thuringia, in the district around Erfurt, and the following information extracted from a recent report of the American Consul at Erfurt may be of interest to British manufacturers:

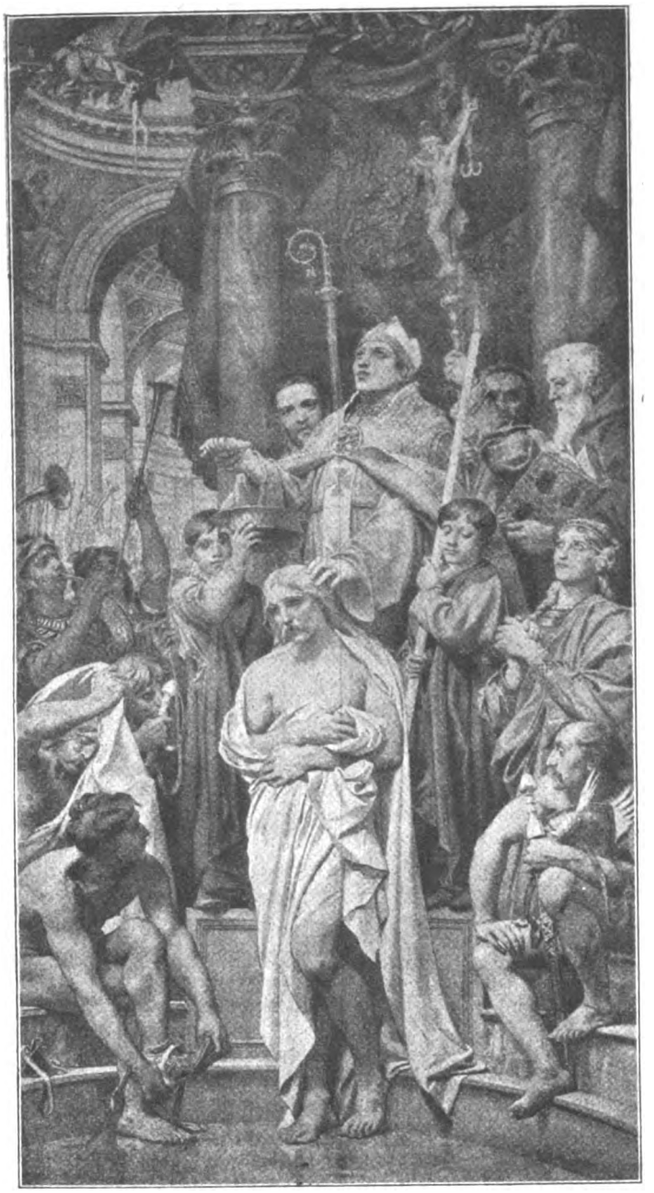
"Paints are sold here mostly in dry form—in cones, lumps, grains, or powder, ground fine. They are packed at the factories in boxes, kegs, barrels, or casks, which are opened at the retail stores and the contents weighed out as purchased, the same being mostly delivered in sacks or paper bags, according to the quantity purchased. The colours prepared in liquid or semi-fluid form, as well as some dry colours containing dangerous or inflammable chemicals, are put up in tin-plate jars with screw tops. Oil colours in tubes have a much smaller sale here, as they are purchased only by artists and decorative painters.

"Special brands of paints mixed ready for use and put up in small sealed cans are not marketed here, and local dealers say that the cost of so preparing them for the retail trade would make the prices too high for extensive sale, especially if they were imported in such form. While paints put up ready for application and sold in small cans are very convenient for small householders in the United States, who, owing to the high cost of labour, frequently do the painting on their own premises, in Germany such work is seldom done by other than skilled artisans, who buy their paints mostly in dry form and do the necessary mixing and blending themselves.

"Wood paints and finishes sold by Erfurt dealers are practically all manufactured in Germany, several factories being located in this district.

"Whether the retail paint dealer obtains his supplies direct from the factory or from the wholesaler depends upon several considerations, the chief of which are distance from the factory and quantities bought. The wholesale dealer generally sells to those retailers who carry relatively small stocks. The master painters obtain their supplies either from the wholesaler or the retailer, according to convenience and the quantities desired.

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THE BAPTISM OF CLOVIS AT RHEIMS.—From the Series of Art Plates published by *The Architect* illustrating the "History of Clovis."

"The terms of payment vary, but paint factories in this territory generally quote prices to domestic buyers f.o.r. nearest railway station, payment in three months, or 2 per cent. for cash. Goods will be packed as desired. If shipped in barrels, casks, or tin receptacles, whose contents are not less than 12½ kilos. (27½ lb.), the cost of packing may not be charged; where same is put up in smaller containers packing is usually charged for. Then, again, certain paints must be ordered in not less than 50-kilo. (110-lb.) containers to get them free from packing charges. The customary export terms are draft at 30 days from date of bill of lading."

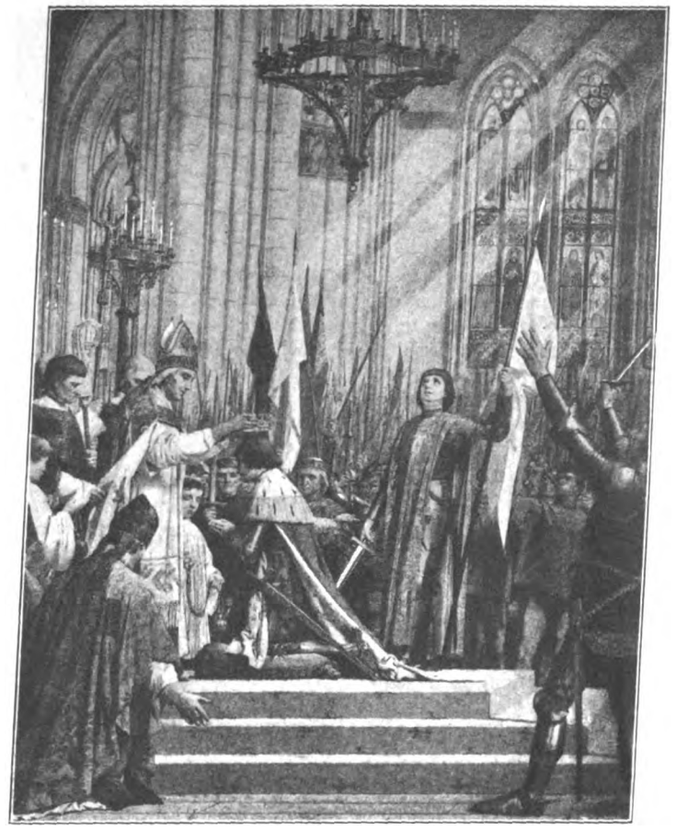
Hamburg and Nuremberg are centres of the German varnish-making industry, which began to develop about the middle of the last century and is now one of very large proportions. The manufacture of varnish includes two principal classes, in one of which are varnishes produced by dissolving resins in volatile solvents so that the coating of resin dries as soon as the solvent is volatilised, and in the other the resins are dissolved in oils, or more recently in benzine or similar substances, and fatty oils are used as a base instead of resin.

The raw materials principally employed in Germany in making varnish are turpentine, oil, copal, and colophony (rosin). These substances are used for making volatile varnishes as well as for lacquers. Shellac is also used, the shellac being dissolved in alcohol, and linseed and dammar gum for making oil lacquers. In the manufacture of oil varnishes, copal, dammar gum, amber, &c., are brought together with fatty oils under the influence of heat; the mass is then cooled down and mixed with solvents and drying matter and afterwards purified by means of filter presses.

Because of the high cost of turpentine imported into Germany from the United States and France, domestic manufacturers have recently employed substitutes for their cheaper products, benzine especially being used in this way. Although the export trade in varnishes is made difficult by high tariffs in many countries, the German industry is said to be in a very satisfactory state, as shown by recent export and import statistics.

As regards our own dominions, it is the United States, and not Germany, that is our rival for the supply of paints and varnishes to Canada and Australia. Canada in other respects has shown a disposition to listen to the offers of cheap goods by German agents, but it seems that she will not have German paints or varnishes at any price. Neither is German competition

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THE TRIUMPH OF JOAN OF ARC AT RHEIMS.—From the Series of Art Plates published by *The Architect* illustrating the "History of Joan of Arc."

in India severe, for our exports to that country are valued at the large sum of £268,268, as compared with only £34,921 worth sent out from Germany. Russia imports very little under this head, the explanation given being that the enormous duty makes importation practically impossible. As to Japan, it has, in the past, taken large quantities of colours both from the United Kingdom and Germany, although of late years the importation has been declining on account of an increasing native output. The native colours, there is reason to believe, can only hope to compete with the imported article when the question of quality is subordinated to that of cheapness. Thus the native product does not find favour with the Japanese dockyards, and the consequence is that the quantity of ships' paints imported has increased considerably.

NOTES AND COMMENTS.

THE destruction of the cathedral of Rheims is good news. It is clear proof that the Huns are aware that the opportunities left to them of showing the beneficial effects of their "Kultur" are now marvellously few outside their own country. They have shot their bolt.

To the great regret of antiquarian Scotland and of a large circle connected with the public life of the country, Mr. W. T. Oldrieve has now relinquished his duties as Principal Architect for Scotland to H.M. Office of Works. Mr. Oldrieve's retirement was announced several months ago, and in the interval those intimately connected with the work of the restoration and preservation of Scotland's ancient memorials have lost no opportunity of paying tribute to the valuable service which Mr. Oldrieve has rendered in this direction during his ten years' occupancy of the position he is now resigning. "We might have had a mere official, an excellent official, but nothing more," remarked Lord Guthrie some time ago, in acknowledging the services of his colleague on the Royal Commission on the Ancient Monuments of Scotland. "But we had in Mr. Oldrieve a very unusual combination—a man of thorough knowledge and learning in his own profession, and of a capacity to acquire new information and new learning when it was needed for any particular work." Mr. Oldrieve has proved himself to be not only an eminent architect, but the keenest of antiquarians, having a veritable "passion for matters connected with the history of the country." It is for his services in the latter regard that his career at the head of the Office of Works in Scotland will be principally remembered.

The building of concrete walls in a horizontal position, and afterwards elevating them to the vertical, has been proved to be a possibility and to possess advantages of cheapness in certain instances. We learn that a method of still further reducing the cost has been patented, the essential part of the invention being that the walls are formed at such a height from their foundations as to permit of their being hinged on the horizontal line through their centre of gravity. Hence no powerful machinery is required to hoist or tilt them into a vertical position.

The position of our timber supply is reflected in that of Ireland, and the *Irish Times* says: "It was feared that the building, carpentry, joinery, and cabinet-making trades would be severely hit by the war owing to the difficulty of getting in supplies of timber in sufficient quantities. Fortunately that is not the case, as was shown by information supplied yesterday by leading Dublin timber merchants, who are in touch with the trade requirements throughout Ireland. As matters now stand Dublin has sufficient timber, of most grades, in stock to meet normal requirements for at least six months. Cork, Waterford, and Limerick are exception-

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ally well stocked, and Belfast has a reasonably good supply for the volume of trade doing.

"There is a comparatively small supply of Russian red wood, which is used for the higher classes of joinery work, in stock in Dublin. The port of Archangel is still open for shipping of timber, and the Russian Government has raised the embargo on all classes of timber except railway sleepers. Now that the North Sea is clear it is expected that shipments will take place as usual from Archangel.

"The various ports of Sweden and Norway are open, and during the past fortnight a cargo of timber has arrived in Dublin from Gothenburg. Shipments of white deals are coming in from America, and supplies of Oregon pine can be had from British Columbia, though, for some reason, this timber is not favoured by Dublin architects. The drawback of chartering a steamer at present is that freights have gone up so much for clearances from Russian ports that the timber would scarcely bear the enhanced cost. War risk insurances are being daily reduced, so that in a few weeks freights will probably come down to normal. The important point is that, for some months, there will be no serious scarcity even should no timber reach Dublin in the meantime."

The Comptroller-General of Patents has now defined the principle on which licences to use German trade-marks will be granted to Britishers during the war. The Comptroller ruled that without strong evidence that the interests of the public demanded it, the Court could not recommend the Board of Trade to transfer to other businesses device trade-marks which were known to be associated with certain firms. He did not think those cases were contemplated by the Legislature, and if transfers were granted misunderstanding might arise in the minds of the public. Besides, it would be appropriating the goodwill of the firm which had registered the trade-mark, and although we might wish to supplant the Germans no civilised country had at present gone so far as to take bank balances. It might be said that a goodwill was something of the same nature. Later the Comptroller pointed out that the object of the Act was not to confiscate anybody's property, but to enable trade and manufacture in this country to continue. That could not be done without suspension of patents and without licences giving rights to British firms.

A special meeting of members of the Association of Midland Local Authorities has been held to take into consideration the best means of providing employment by the execution of works of a public nature with the co-operation of the Development Commissioners and the Road Board.

Alderman Cook, the chairman, said they were face to face with grave national affairs, and as at such a time they sunk all parties in the State, so, he thought, as far as possible, they could sink all divisions with regard to their various localities. They must look at the matter broadly and see how they might deal with any industrial distress that might arise through the war, and how they might deal with any schemes that might be brought before them for the alleviation of that distress. He hoped there would be no distress, and that matters would go on their usual course, but as in war it was prudent and advisable to make preparations for certain things that might happen, so they would be wise as local authorities to prepare their plans so that they should not be taken unawares should industrial distress appear.

Communications from the Midland Reafforestation Association, the Vacant Lands Cultivation Society, and the Midland Branch of the Roads Improvement Association, enclosing resolutions passed by those bodies in favour of works in which they were interested being promoted, were read.

Sir G. S. Gibb, chairman of the Road Board, wrote with reference to the proposed new road from Birmingham to Wolverhampton, that the opinion which had been passed as to the scheme, quite apart from any question of the need of road accommodation in connection with any reafforestation scheme, was that, although it would certainly be a useful addition to the available routes of through communication, it could not be strongly advocated from the point of view of long-distance through traffic. On the other hand, the road would be a valuable one connecting Birmingham and Wolverhampton, and would open up for building development considerable stretches of country between those places. The Road Board would not shut the door to suggestions for an increase of their proposed contribution if the local interests concerned took up the scheme actively and showed that it had genuine local support and financial backing.

Mr. Stilgoe (Birmingham City Surveyor) explained the details of the proposed new road between Birmingham and Wolverhampton, and it was agreed that a copy of the scheme be circulated among the local authorities concerned and their opinion thereon invited.

We understand that Mr. S. C. Kaines Smith commenced a course of lectures at the British Museum on Greek religion on Tuesday, September 22. These lectures will carry on the line of study suggested by the course on Greek art and national life given at the Museum last winter. "Modern Art and National Life" will be the subject of his course on Thursdays at the Victoria and Albert Museum, which will deal with the development of art from the Renaissance to the present day, showing how the widely varying treatment of classical models and the application of classical principles in art in different countries is directly due to national temperament, conditions, and history. Particulars may be obtained from the hon. secretary, Miss Claire Gaudet, 120 Cheyne Walk, Chelsea.

The School of Art Wood-Carving, 39 Thurloe Place, South Kensington, which is under Royal Patronage, has been reopened after the usual summer vacation, and we are requested to state that some of the free studentships in the evening classes maintained by means of funds granted to the school by the London County Council are vacant. The day classes of the school are held from 9 to 1 and 2 to 5 on five days of the week, and from 9 to 1 on Saturdays. The evening class meets on three evenings a week and on Saturday afternoons. Forms of application for the free studentships and any further particulars relating to the school may be obtained from the Secretary.

WAR ITEMS.

In connection with the campaign undertaken by the Board of Trade on the advice of their Advisory Committee on Commercial Intelligence to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of inquiries for names of sellers or buyers of articles of which the sources of supply or markets have been interfered with by the war.

Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the inquiries, and lists are being prepared and circulated of articles which inquirers desire (*a*) to purchase and (*b*) to sell. The first list was published on August 29; the second list is now ready and may be obtained on application to the branch. Firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director of the Commercial Branch, Board of Trade, 73 Basinghall Street, London, E.C.

Included in the second list of articles which inquirers desire to purchase are: Asbestos—compressed fibre sheets, fibre jointing; black lead—for pencils, plumbago;

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brushes—camel hair and quill, for cleaning ironwork; building materials—zinc sheet for roofing; china and earthenware—for electric fittings; electrical apparatus—batteries, carbons, bells and pushes, lighting and accessories, corrugated iron cases for transformers, insulating links for switches; general fittings; fibre—board; fire extinguishers; furniture—bentwood, general; galalith; glass and glassware—vessels for electric accumulators, lenses, bulbs, chimneys, and reflectors for lamps, windows, for horticultural work, for electrical fittings, lamp glass; heating and ventilating—fans; lamps—carbons for, electric incandescent; lanoline; lead and lead articles—pig lead, pipes; incandescent mantles—fabrics for, magnesia rings for; constructional ironwork for concrete; mild steel connections for glazing; paints—pigments, white lead, enamel ingredients; stationery—drawing-pins, pencils, office sundries; timber—plywood, lathwood, birch, alder, beech; waterproof roofing materials—unimpregnated paper felt for, waterproofing paste and solutions. In the same publication is a list of articles which inquirers desire to sell, including amongst many others: Asbestos; building materials; buildings and sites; clay; electrical apparatus; gypsum; heating and ventilating; Kieselguhr; leaded lights; lighting plants; locks; incandescent mantles; paints; photographic appliances and accessories; photographs; plaster, wall and ceiling; sand; tar; timber; waterproof roofing materials; waterproofing paste; window frames.

In connection with the campaign which the Board of Trade have organised for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, it is notified that the following information has been received from the office of His Majesty's Trade Commissioner in South Africa in a communication dated August 17:

"The readiness on the part of the banks to meet the difficulties of existing conditions is equally shared by responsible merchants. The moral effect resulting from the steps taken by the Imperial Government to keep the African ocean route free and to remove financial difficulties, has been to restore confidence in South Africa to a wonderful degree.

"It would appear that, in some respects, South Africa has had to rely on Germany and Austria for certain lines of commerce which are difficult to obtain elsewhere. Nevertheless, the country has awakened to the fact that something more than financial support to British industry is lost by dealing with foreign manufacturers, especially when its needs can, to a considerable extent, be satisfactorily supplied from one part or other of the Empire.

"The opportunity will shortly be given to British manufacturers of capturing an immense portion of the trade in this market hitherto held by Germany and Austria, but it is highly necessary that they should not mark the disappearance of these competitors by relaxing past efforts to reframe their trade organisation upon the most modern standards."

His Majesty's Consul-General at Algiers has forwarded (August 26) a statement showing the value of goods largely imported into Algeria in 1912 from Germany and Austria-Hungary, to the exclusion of British products. The principal classes of goods included in the statement are: Chemicals, tools and metal goods, pottery, glass, &c., fans and small articles in ivory, wood, &c., beer, jute (phormium tenax) fabrics, woollen fabrics, feathers for millinery, &c., paper, cardboard, &c., volatile oils and vegetable essences, imitation jewellery, scientific instruments and apparatus, furniture and wooden goods, hops, malt.

This statement does not include goods such as coal and machinery, which are imported in larger quantities from the United Kingdom than from the German Empire and Austria-Hungary, or raw materials and foodstuffs, such as potatoes, timber, tobacco, &c. The statement in question may be inspected by United Kingdom manufacturers at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

His Majesty's Consul at Seville has furnished (August 28) the following list of goods, which are usually imported into Spain from Germany: Machinery, rails, iron pipes, steel cables, tools, knives, forks, spoons, &c., brassware, enamel ware, brass sheets, gas pipes, tinplates, electrical fittings, shooting requisites, tea, groceries, hams, &c., vaseline, starch, emery paper, cement, lubricating oil, buttons, ink and office requisites, colours, paint, and varnish, glue, illustrated postcards, indiarubber goods, pencils, chinaware, cardboard, chemicals, stationery, photographic goods, bicycles. It should be noted that some of these goods, including agricultural machinery, and probably tea, rubber, &c., are in reality exports from the United Kingdom which have been transhipped at Hamburg. His Majesty's Consul mentions that unfortunately the only direct line of steamers to Seville and from Seville to London has ceased running.

His Majesty's Consul at Oporto cables (September 11) that amongst the most important classes of German goods imported into Portugal are chemical products and manures, dyes, paints, hardware, cement, iron, cutlery, cycles, sewing machines, automobiles, locomotives and plant, electrical machinery, carpets, textiles, twine, stationery, bottles, fur for hats, and colonial goods. Fancy goods are largely drawn from Austria-Hungary.

His Majesty's Consul at Lisbon states in a telegraphic report dated September 12 that since the beginning of the war he has received inquiries from Portuguese firms for information as to British firms supplying electric fans, sewing machines, fishing nets, cooked ham in tins, paper for printing magazines, lace insertions for ladies' dresses, underclothing and [illegible] gowns, ribbons, cotton tablecloths and napkins. Amongst the goods which have hitherto been supplied entirely or partially by Germany are enamelled iron baths, sanitary fittings, name plates, rifles, ammunition, railway carriages, locomotives and component parts, aluminium ware, telephones, cheap cutlery, shades and globes for gas lamps, glass ware, and black pastes used as ink for the printing of newspapers. For lathes and drilling machines, agricultural machinery and implements, and electric lighting plant and fittings it is considered that there will be a market in the future, but owing chiefly to the fact that there are large stocks of these articles on hand, no purchases are being made at present.

His Majesty's Consul at Milan telegraphs that the British Chamber of Commerce there has received inquiries from local firms, who are desirous of purchasing the following classes of British goods—viz., boots and shoes, tanned leathers, leather goods, hides and skins, glass tubes, glass gauges, cotton lace goods, cloth, dress goods, furs, furniture, wood pulp, stationery, pens, pencils, &c., oilskins, dyeing and bleaching materials, chemicals, hat bands, hat-making materials, machinery, dynamos, bicycles, iron and steel, motors, carburetters, motor cycles, cutlery, kitchen utensils, indigo.

We understand that Messrs. James W. Carr & Co., Ltd., are manufacturing at their works in Sheffield best forged steel crushing balls, the bulk of which trade has hitherto gone to Germany. These balls are extensively used by cement makers, manufacturers of cement-making machinery, and by mining companies. The firm are prepared to quote very competitive terms to capture and keep the trade, and to work night and day to maintain deliveries.

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A corps of Royal Engineers, composed mainly of members of the engineering profession, is being enlisted at No. 2 Savoy Hill, W.C. Surveyors and other professional men, with some experience of engineering and similar work, wishing to enlist in this corps should present themselves at the address mentioned. Those wishing to enlist in a professional body, but not having the engineering experience required for the above corps, should apply to the Recruiting Officer, 20 Hanover Square, W., where Sir Howard Frank has kindly provided offices for the purpose.

Before the House of Commons was prorogued last Friday, Mr. Cowan asked the President of the Board of Trade whether his attention had been called to the injurious effect on the building trade, and consequently on employment, produced by the increase in the price of timber since the outbreak of war; and whether the Government would take steps to fix maximum prices for such raw materials on a basis similar to that adopted in the case of foodstuffs.

Mr. Robertson (Parliamentary Secretary): My attention has been called to the matter referred to by my hon. friend. The Board of Trade are fully aware of its importance, and are considering what steps, if any, are possible and desirable to encourage the supplies of timber for building. I may add it is not accurate to say that the Government themselves have fixed maximum prices for foodstuffs.

The Architectural Association War Service Bureau supply us with the following information:—

1. The Royal Engineers are still not enlisting, but men are now being drafted from Chatham to various training camps, so that any day they may reopen.

2. Recruits are now wanted for the Royal Engineer units of the Royal Naval Division. They should be well up in constructional work. Application should be made personally at No. 2 Savoy Hill, W.C., before Saturday (the 26th inst.). All men who are accepted should inform Mr. Potter, the Hon. Secretary of the Bureau, at once, so that he may send up a list of men who are to be kept together.

3. There are still vacancies in the Public School Battalion, Middlesex Regiment. Men should apply personally at 24 St. James's Street, S.W. All who are accepted will be kept together, provided they send Mr. Alan Potter their names at once.

THE ARCHITECTS' WAR COMMITTEE.

THE Royal Institute of British Architects feeling it to be their duty in this national emergency to arrange for such collective action by the architectural profession as may be found to be desirable have, with the co-operation of members of other architectural bodies, formed an Architects' War Committee which is broadly representative of the whole profession in the United Kingdom.

It is felt that a contribution by the whole body of architects to the Prince of Wales's Relief Fund will not only secure a larger donation and enable all to help, however small a sum they are able to subscribe, but that the donation given in this way may encourage others to a like effort.

The Committee will be glad to receive contributions to this Fund.

While, however, it is most important that the National Fund should be supported, the Committee cannot be blind to the fact that there is likely to be a great deal of temporary distress among architects.

The Board of Trade returns for the month of August show the immense diminution of trade already caused by the war, which cannot fail to have a serious effect on the work of our profession. The funds at the disposal of the Architects' Benevolent Society are quite inadequate to cope with such an emergency. The War Committee therefore hope that all architects who are in a position to do so will give the most generous support to the Special Fund intended mainly for the assistance of architects and for other matters arising from the war which may affect our profession.

Donations should be sent to the Hon. Secretary, the Architects' War Committee, 9 Conduit Street, Regent Street.

Mr. C. Stanley Peach, Hon. Secretary of the Architects' War Committee, has issued the following circular:—

Although it may be presumed that most of the architects who have had to leave their work in order to join the Armed Forces were able, before their departure, to place their work in the hands of colleagues and friends, yet it is thought probable that cases may arise in which it will be difficult for architects to find suitable substitutes. In such cases architects are invited to note that the Architects' War Committee, already formed, is willing to give advice and help. The extent and nature of the help offered may be classified as follows:—(*a*) Undertaking complete charge of an office; (*b*) Carrying on in all its phases a specific piece of work; (*c*) Visiting a specific piece of work and reporting to office only; (*d*) Dealing with clients, builders, and general matters; (*e*) Providing draughtsmanship directly or indirectly; (*f*) Giving only general advice on and when required.

Readers in sympathy with the Committee's efforts can help in one or more of the following ways:—

1. By writing to the Hon. Secretary, Architects' War Committee, 9 Conduit Street, Hanover Square, London, offering their services, when a form will be sent to them inviting specific information as to the extent and nature of their generosity, should this be called upon.

2. By sending this announcement to colleagues who have already joined the Forces, and who are known or supposed to require assistance.

3. By intimating their own intention of joining the Forces, and the general nature of the professional circumstances which will result, when another form will be sent with full details.

4. By drawing the attention of others likely to be interested in this movement, whether prospective donors of services or military patriots.

The War Committee desire to emphasise that their offer of help is extended to all architects, whether or no they be members of any organised architectural body.

The Committee also wish to call the attention of those desiring of joining the Army to the fact that certain advantages may be obtained by recruits by joining through the Architectural Association rather than through other channels.

COMPETITION NEWS.

CHAPEL-EN-LE-FRITH.—The Rural District Council have acquired, for the purpose of building workmen's dwellings, a piece of land at Town End. Premiums for the most suitable plans and specifications were awarded as follows: 1, Mr. C. Flint, Buxton; 2, Mr. G. E. Garlick, Buxton; 3, Mr. S. Walton, Manchester.

SOUTHEND.—The Town Council have decided that premiums of 100, 50, and 25 guineas be offered for the submission of designs for a proposed tuberculosis hospital upon the understanding that, should one of the competing architects be engaged to supervise the carrying out of the work in accordance with the design submitted by him, the amount of the premium awarded to him be considered as forming part of his commission. In reply to questions, it was said the cost of the hospital was estimated at about £300 per bed, and there would be forty beds.

ILLUSTRATIONS.

HOUSE AT NOORDWK, HOLLAND.

THE drawing of this house was exhibited in the Royal Academy this year. Mr. Maurice Webb, the architect, who has been elected President of the Architectural Association, is now serving in the Royal Engineers.

COURTYARD OF THE PALAIS DU PRINCE, LIEGE.

THIS is one of the most picturesque drawings amongst the many included in Samuel Prout's "Continental Sketches."

THE CATHEDRAL AT TRANI.

THIS is one of the many Mediæval churches, Italian and others, including the Byzantine Cathedral of St. Mark and the Gothic one of Orvieto, in which Mr. Goodyear has investigated architectural refinements, constructive asymmetry, and entasis.

The fine campanile of the Cathedral at Trani was erected partly by the architect and priest Maestro Niccolò, who inscribed his name on it: *Nicolaus sacerdos et protomagister me fecit* (1130-35), and completed in the time of the Archbishop Jacopo Tura Scottini (1352-78). It has recently been strengthened, as a collapse was feared.

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ENGLISH COTTAGES—THATCH AT CASTOR, NORTHAMPTONSHIRE.

THE ARCHITECTURAL ASSOCIATION WAR SERVICE BUREAU.

FOR the convenience of all members of the architectural and kindred professions and their friends who wish to respond at once to Lord Kitchener's appeal the following arrangements with the various authorities have been made:—

LORD KITCHENER'S ARMY.

All men enlisting at Whitehall in any branch of His Majesty's Regular Forces, through the Architectural Association, will be sent to whichever regiment they may choose, provided it is not recruited to its full strength, and they will be kept together as far as their duties will allow.

Our President and a number of members have already been accepted for the Royal Engineers, where as sappers they will find their civil training gives them a great advantage. Those who prefer to join the cavalry, artillery, or infantry can do so, and I am arranging with the recruiting station in the City to send applicants to them for enlistment in the units being reserved for City men.

The term of enlistment is for the war, and the age limit is 19 to 35. Pay at the usual army rates.

A special branch of the Motor Transport Corps is now being formed to collect and repair the numerous cars attached to the Allied Forces in the field. A limited number of recruits are required immediately.

Every man applying must be a mechanic, skilled in motor repairs, and he should state whether he can bring his own car or motor-cycle.

Pay for the lowest rating will be 3*s.* 3*d.* a day. As the corps is expected to leave England shortly recruiting must be rapid, and men wishing to join, who have the necessary qualifications, should communicate with me at once.

Work in the profession is likely to become scarcer as the war continues, and to economise employment is most desirable. All assistants and others eligible for Kitchener's Army should not hesitate to join at once, leaving their berths to those who from age or health cannot be accepted, and who may otherwise be out of work.

In this connection I understand that the Royal Institute of British Architects is arranging for the work of younger men in practice, who wish to join the forces, to be looked after during their absence.

TERRITORIALS.

Foreign Service.—The Foreign Service battalion of "The Artists" is at full strength, but a few picked men are being enrolled as a reserve, and they will be trained in the 2nd battalion until vacancies occur.

Home Defence.—A second battalion of "The Artists" is being formed for home defence and a few vacancies have been reserved for members of the A.A. and R.I.B.A. Members applying to me direct will be furnished with an introduction to the Head Recruiting Officer.

Men of the second battalion will live at home at present.

Terms of enlistment, four years. Pay 1*s.* a day, and 2*s.* a day allowance until barracks are provided.

The Territorial Engineers are not at present recruiting for home defence.

THE ARCHITECTURAL ASSOCIATION VOLUNTEER TRAINING CORPS.

The A.A. Volunteer Training Corps, as originally proposed by Mr. Maurice Webb, is now being formed in connection with the Central Volunteer Training Corps Committee, of which Lord Desborough is chairman. This Committee has received permission from the War Office to encourage and create training centres throughout the kingdom for men who are ineligible for Lord Kitchener's Army or the Territorials, or who are prevented by special circumstances from joining the Forces.

The A.A. Corps, of which the Rifle Club will form the nucleus, is open to all architects and surveyors, and members of kindred professions; the only qualification being that they are prevented from joining the Army as at present constituted.

The headquarters of the corps will be the Central Electric Supply Co.'s Station, Lodge Road, St. John's Wood, where there is ample accommodation for miniature rifle practice, revolver practice, drill and skirmishing.

Members can drill any day of the week except Sundays, and obtain musketry practice likewise, except on Tuesdays and Thursdays.

There is an entrance fee of 5*s.*, and a subscription of 2*s.* a month, but this latter is liable to be increased if the price of ammunition advances.

Rifles and revolvers of service weight are provided for musketry practice at the ranges with an allowance of 21 rounds of ammunition per day free of charge, and members will be able to purchase further supplies at the range if required.

The general equipment of the corps will depend on private effort to a great extent, but assistance will also be obtained from the Central Volunteer Training Corps Committee.

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It is not proposed to limit membership of the corps in any way, except as stated above, and I should be glad to receive names of intending members as soon as possible.

All applying should state clearly why they are unable to join the army, and when enrolled they will be furnished with a special pass to admit them at headquarters.

ALAN POTTER.
Hon. Secretary, A.A. War Service Bureau.

UNIVERSITY OF LONDON SCHOOL OF ARCHITECTURE.

THE School is organised so as to give a course of systematic training on a broad basis to students about to enter the architectural profession. The aims of the School are to interest students, to encourage amongst them a spirit of keenness, to help them to understand the importance of the career upon which they are entering, to ground them in construction and the principles of design, and to give them some insight into the nobility and beauty of the architectural masterpieces of the past.

Architecture is now a many-sided subject, and branches of it have to be mastered which formerly either did not exist or else required little knowledge. It is not sufficient to devote attention to one branch alone. Practical and æsthetic requirements are equally important and must be considered side by side. An architect must be able to construct soundly, otherwise his building will not stand; he must be capable of giving it fit expression and distinction, otherwise it cannot rank as architecture. In the short time—two or three years—that a student remains in the day courses of the School it is impossible that he can master all technicalities, but the courses are made as broad and comprehensive as possible so as to include the most essential.

The "Orders" are taken as the basis for design in the studio. The greater part of a student's first year is devoted to their rendering and to exercises on them of increasing difficulty; preliminary exercises in perspective and shadows being set to enable him to express them properly. Without a thorough knowledge of the "Orders," and the principles of Classic design, students cannot pass to the third year, or to the academic design course. Unity in architectural expression is essential if architecture is to advance, and students should not have their minds distracted by being called upon to study closely and work out exercises in different styles. The beauties of all past styles are acknowledged and cannot be ignored; but the lectures on the history of architectural development should be sufficient to enable students to get some insight into their merits and understand and appreciate the lessons they teach. The greater part of the student's second year is devoted to practical designing, *i.e.*, the planning and designing of more or less simple buildings of an everyday character, and towards the end of their second year, or in a subsequent third year, they can enter the course of academic design.

Building construction has changed so much of recent years that what was included originally under this head no longer suffices. Such knowledge of steel and reinforced concrete is now necessary as will enable architects to manage smaller problems unaided and to co-operate effectively with the engineer when bigger problems present themselves. Architectural students study this branch in the engineering laboratory side by side with engineering students, an arrangement that is of advantage to both classes. The simpler problems of building construction are dealt with by lectures, exercises in the studio, and also by demonstrations at the Trades' Technical School, Great Titchfield Street, by kind permission of the Carpenters' Company, where students will have the opportunity of working on one craft and thus obtaining a sounder knowledge of it than can be acquired by lectures and demonstrations alone.

Although architectural drawings are merely a means to an end, and not the end themselves, the ability to express ideas on paper in a satisfactory and attractive manner is essential to the architect. Actual architectural drawing is, of course, dealt with in the architectural studio, but drawings from casts and the life are mainly made in the Slade School. The teaching of modelling is at present carried on in temporary studios within three minutes' walk of the college buildings. When the new modelling studios are built architectural students will also be able to obtain instruction in modelling, and the three great arts of painting, sculpture, and architecture will be housed side by side. Painters, sculptors, and architects are sometimes called upon to collaborate, and would be more frequently so called upon if they better understood one another's work. The close association of students in the kindred arts should do much to promote such an understanding.

The department of town planning has been established in order to provide systematic courses of training for architects, engineers, and surveyors who desire to acquire expert knowledge in the laying out of towns.

The passing of the Town Planning Act of 1909 directed public attention to the importance of town planning. In preparing their schemes under the Act local authorities have called into their service architects, engineers, and surveyors who by their personal efforts have acquired some knowledge in the laying out of towns. Experience has, however, shown that town planning demands for its practice specialised training. Advisory and permanent positions for the trained student are likely to be created.

Architectural and engineering students who have already had their general training in architecture or engineering as the case may be are advised to proceed to a course in town planning. The course will include lectures and studio work. The lectures and courses will include town planning, civic architecture and landscape design, town furnishing, municipal engineering, hygiene and sanitation, arboriculture, and municipal law.

In the studio the different methods of draughtsmanship will be fully demonstrated, and not only as regards setting up, but also as regards rendering in monotone or colour. The teaching of draughtsmanship in its higher branches will form an important part of the work done in the studio.

UP AND DOWN THE MEUSE.—IV.

By A SKETCHER.

ONCE upon a time Huy was what partial guide-books still describe it, one of the most picturesque spots on the Meuse, and the banks, both up and down, were remarkable for beauty. But the proverbial war between the utilitarians and the picturesque finds here full illustration. After passing some five miles down the river from Namur the fine cliffs which alternate with wooded hills and more level cultivated land on either side the river are being quarried out of their natural form and stripped of their garlanded foliage. Here a red scar defaces the rock like a wound, and there the noble crags are hewn out in angular or slant masses, while a stretch of rubble spreads in hideous confusion between cliff and river. Kindly Nature hastens to cover with grass and creepers the injuries man inflicts, but the beauty of the scene is really gone.

Just at Huy the hills on the right bank follow the round curve of the river with soft enfolding wood, and half of the little town gathered about the lofty collegiate church and its three towers, with the sombre grey stone bridge in front, groups well against the green background. But even here an iron railway bridge, rather higher up, is an eyesore in the view, and dreary brick-coloured sheds and factory chimneys do their worst to spoil the not unpicturesque frontages of irregularly-built houses. Below Huy the left bank of the river is given over to *fabriques* and *usines*, the air is full of grimy dust, and on the very top of the cliff itself tall chimneys belch forth poisonous steam; while on the other side some lovely woods stretch peacefully away as if to point the melancholy contrast. At one spot there is a certain fierce picturesqueness in the scene. On the bank is a group of factories, black, and overhung with clouds of smoke; behind, over the edge and shelving sides of the cinder-grey cliff, a strange outpouring of angry red deposit, like molten lava, flows over the rock, being refuse from zinc works, we believe; a long tube or gallery crawls up the face of the cliff like some huge antediluvian reptile, passes under a fantastic turreted stone gateway and conducts the poisonous gases from the works below into a tall chimney on the level, whence they are supposed to issue with safety to the neighbourhood, a statement those lodging at Huy when the wind sets up the river may feel inclined to deny. Take this strange episode in a scene Nature meant to be quiet and lovely, where the westering sun sets the red cliff on fire, and factories smoke like as if in Tophet, and you get a weird combination having a certain diabolic picturesqueness.

The Collegiate Church of Notre Dame is too well known to be described here. The style is mixed, for while the foundation dates from 1311, to which period the western end partly belongs, the chief portion is at least two centuries

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later, and "improvements" have gone on up to the present day. The great height and spaciousness of the interior, with the striking length of the lowest windows in the apse, filled with uncommonly good modern glass, and the long choir, unbroken by screen, produce an impressive and harmonious *ensemble*, in spite of shallow mouldings and little richness of detail. Unlucky it is that some "churchwarden" era has plastered the round pillars of the nave with a vile cinder-coloured paint, while all the mouldings are picked out in the same cheerful hue against white flats. The church now stands quite free of surrounding buildings, except where that remarkable sculptured portal of the ancient cloister of the college connects it with the neighbouring block of houses. This interesting *Portail de la Vierge* is still, thank goodness! free from injudicious restoration. Its quaint triads of reliefs, King Herod and the murdered Innocents, the Birth of Christ (with St. Joseph contemplating the Virgin lying on a couch with the Babe on her breast), and the Adoration of the Kings, are *in statu quo* of almost archaic simplicity. The later and very beautiful figures on the doorposts, the Virgin and Saints Dominicus and Maternus, are intact. The exterior of Notre Dame is not wholly satisfactory. The late towers on either side the choir are at odds with the massive western tower that terminates the nave, and the transepts are very shallow in proportion to the length of the building. Hence it is by a certain massiveness of effect and from its large scale that the church impresses, rather than from dignity or symmetry of design. Yet no one should pass by Huy without visiting this at least one of the finest churches Belgium can boast.

It is worth while to drive down the left bank of the river and turn off to Amay, to see there the parish church, with its two quaint Romanesque towers, simple round window openings, and cornice. Unluckily, the interior is naught. This point, with one or two châteaux in the neighbourhood, more or less dating from two centuries back, and pretty excursions up the winding streams of the Hoyoux and the Méhaigne, are the chief attractions about the Meuse in the neighbourhood of Huy.

There is no street architecture in Huy itself, though the houses, from their irregular size and steep roofs, are rather pictorial. Neither do the minor churches offer any material for the sketch-book, though one or two are of ancient origin, as the memorial slabs testify. In a little out-of-the-way church not far from the bridge, on the east bank, we found some noteworthy plaques or carved pictures of the "stations," hung round on the walls, which again showed how strong is the leaning to this kind of work throughout Belgium. One is constantly coming upon excellent adaptation of design to wood sculpture, and these "stations" were remarkable for invention in the selection of attitude and grouping generally, for a certain bold, dramatic feeling, and for capital treatment of relief; yet the work betrayed itself as from the hand of some untrained sculptor by a certain *naïvete* in the designs and the comparatively rough execution. Belgian territory, which abounds in the raw material among its acres of forest and woodland, is equally, and consequently perhaps, rich in carvers and sculptors in wood, as everybody knows; and it is interesting to find in out-of-the-world villages and quiet towns traces of this art, which has been national for centuries. It is the fashion to quote the very beautiful work of the brothers Geefs, Ducauget, Geerts, and others, as evincing a perfection consummated in modern days over the earlier schools; and if the comparison be made with the pretentious products of the last century, the statement may be borne out by the increased refinement of design and sounder taste of the present school; but one should go farther back to see from what the art has fallen. For instance, at Liége, in the little old church of St. Denis is a wooden reredos or altar-piece of subjects in high relief set within a fine, elaborate architectural structure of canopies and niches, the scale of the figures varying from about 6 or 8 inches in the lower compartments to a foot or more at the top. The whole is a masterpiece of dramatic expression and plastic style. This noble example of sculpture in wood dates from the close of the fifteenth century or earlier, and the name of the master has not come down to us, but if we set it beside the best examples of modern carving (and the pulpit, by Geefs, in St. Paul's Cathedral close by, is a fair test), we shall see the present school is in the highest qualities of art far below the masters of the fifteenth and sixteenth centuries. There is a good deal produced now in the way of "imitation antiques" both in wood and plaster, for altar triptychs, and other ecclesiastical purposes; and clever enough these imitations, mostly gilded and coloured, are, for the mannerisms of the early Flemish school are easy to catch; but it is needless to remark that the real spirit of the older artists is not to be inherited through soulless imitations, as we in England under the infliction of much feeble and plagiaristic ecclesiastical art have learnt to our sorrow.

The river scenery down the Meuse pretty much ends at Huy, as may be gathered. But when the broad stream sweeps in long curves through Liége, it finds something worthy the passage, for despite of successful industry the town remains a right pleasant and fair city. Picturesque buildings yet linger near the Pont des Arches, especially the quaint block of the old Mont de Piété, with its grotesque sculptured heads and traces of decoration on the façade, and great steep roof, while the town rises well, with its many towers and background of green hills out of the water full of dropping reflections from the long lines of quays.

The Meuse is really very shabbily treated; its waters are drawn off to supply canal navigation very early in its course, and thus, of course, the bed becomes often too shallow for any but row boats, while it is allowed to choke itself with rushes and tangle, and do anything else it likes so long as it supplies enough water for the canals. From a purely amateur and wholly uncommercial point of view this is aggravating, more especially as, to add insult to injury, the trim canal way is often conducted side by side with the river it has robbed. In spite, however, of such one-sided treatment, the Meuse contrives to look very brimming between Liége and Maastricht, and to give one a stretch of cheerful scenery most characteristic of the new country one now enters. The low line of wooded hill on the right bank of the river juts out into the water at Argenteau, half encircling the village; on the opposite side snug cottages, white and yellow washed, with red-tiled roofs of the velvety light-red, peculiar to Dutch tiles, nestle among orchards and green pastures; the river is wide and so full that its shining water seems really to flow over into the fields, and so smooth that it reflects every touch of colour and accent of line; on the edge women in white caps are washing linen, and some cows stand in meditative leisure. Beneath a serene afternoon sky flaked with white cloud just flushed with warmth this scene was delightful in a certain cheerful, quiet, and sunny picturesqueness entirely Dutch, and entirely unlike anything the other side of Liége. Before long even the vestige of a hill will vanish, and the *Niederländer* or low lands, true to their name, give us welcome to level fields and acres of market-garden and acres of bog and heather; but at Maastricht, which, by the way, is in Limburg, and not in Holland proper, there is still the very serious elevation of the Petersburg, which runs from Liége thither, 400 feet above the river (!), and is celebrated for its strange and ancient sandstone caverns and quarries, twelve miles long and seven broad. So taken up by these natural and historical caves are the guide-books, that the descriptions of the town are meagre enough. Of course, this want is supplied as far as architecture is concerned by works of more literary importance. But Maastricht deserves a full meed of praise; there is not a pleasanter town in Holland, or one with much more character. Maastricht and Wyk have the canal and the Meuse, crossed by a noble nine-arched bridge, between them, Wyk being a sort of modest suburb, with a modern church and a pretty frontage of little bright-tiled houses, dropping their reflections into the water. Along the canal heavy barges lie about, and the quay has usually its groups of idlers and sailors. Thence the lazy water creeps round among the houses and gardens, and keeps quiet nooks for boats to lie moored in. Maastricht is the aristocratic possessor of the right bank of the river whereon it outspreads its pleasant open squares, surrounded by irregular brown and yellow houses with prodigiously steep roofs, its massive and respectable Stadhuis, and its noble old churches with their many towers. Hardly could one find a more picturesque group of buildings than is formed by the great church of St. Servaas, and its close neighbour, the Gothic St. Jan, seen from the tree-bordered Vrijthof. The circular eastern end of the collegiate church, called the chapel of Charlemagne, with its round-headed windows and arcading and tall Romanesque towers, with pretty coupled openings, runs through a delightful chord of yellow and red and grey against the brown mass of the main building; while the light deeply pierced lantern tower of St. Jan is almost fantastic in the hues of weather-worn pale brick. Why and wherefore the guide booksof Baedeker and Murray should

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pass this last tower over in silence is incomprehensible, for it is a singularly picturesque remnant of a fine period, 1406-1420, and by its close proximity to St. Servaas mingles its graceful lines and delicate colour in delightful combination. What strikes one very much in Maastricht is the huge height of the church towers, and the odd heaping together of the body, arising partly from gradual additions to the original structures. St. Servaas, for instance, is like a double church. Notre Dame—printed in short as O. L. V.—has a pair of gigantic round western towers which dwarf all surroundings, and serve as landmarks above the high pitched roofs of the town. Sad to say the remarkable apse of the interior, instead of being let alone in the glory of its two storeys of Romanesque arches and pillars with extraordinary sculptured caps—illustrating all the Old Testament pretty nearly—is bedaubed over with thick paint, the shafts being coloured to represent variegated marble and the capitals painted white; a barbarism low enough to make the spectator weep aloud. There are studies in plenty for an artist about the group of churches on the Vrijthof, but it is not easy to see this old church of Notre Dame, for the little *hof* in which it stands hardly allows sufficient distance, and the apse end is encumbered with surrounding buildings. From the other side of the river, however, the old pile groups capitally, and the curious little oblong tower at the south side of the choir becomes visible, the companion to which has vanished.

Besides the omission of St. Jan's belfry from the guide-books afore-cited, must be signalised a like slight to the treasury of St. Servaas. This is the more strange as the great *châsse* of the patron saint, called *The Noodkist*, is a fine specimen of byzantine metal-work both as to size and style, made of gilded copper in the sarcophagus shape and decorated with figures of Christ, the Apostles, the Angels of the Judgment, and St. Servaas himself at either end. The aureoles are in enamel, and some of the delicate detail is jewelled. The treasury contains also a couple of fine plaques in gilded copper of angels, of the same period, two precious book-covers of the twelfth century, and many smaller reliquaries of Romanesque and Early Gothic workmanship. One very small enamel of *The Crucifixion*, about an inch and a half square, has metal figures on the frame of the Virgin and Angel of the Annunciation and God the Father above all, of exquisite delicacy, and so small you really need a magnifier to see them distinctly. This dates probably from the fourteenth century. These precious things are of course known to connoisseurs, but the chance traveller might miss them if he trusted to his "Baedeker."

Besides its church architecture, Maastricht offers plenty of picturesque stuff for the sketcher. The houses, all shapes and sizes, are coloured variously, and have plenty of wooden window-frames, and visible joists, and gabled roofs sloping upwards to such unbelievable heights that where the unhappy individuals sleep in the upper set of dormers is a question that really torments one's compassion. Moreover, the Dutch tiles are a perpetual source of satisfaction in their soft bright reds that tell so well among the broken masses of building. The people wear a good deal of colour in their costumes hereabout; the blue linen blouses of Belgium still prevail, and mix with the brown jackets and more nondescript apparel of the Dutch peasant and mechanic, while the women come out in famous dull red and crimson petticoats, brilliant kerchiefs, and coloured stuff bodies, as well as lilac and blue linen, and the great black or dark brown cloaks with a big round hood that clothe both Belgian and Dutch dames with such quaint dignity.

Altogether Maastricht is a jolly little town, bright and full of character, and very sketchable, without being unsavoury, a combination of virtues not by any means common.

THE RELATION OF INDUSTRY TO ART.—III.*

By SIR CHARLES WALDSTEIN, Litt.D., Ph.D.

IN the two previous lectures we defined the range of our subject; we endeavoured to ascertain clearly what art meant, to establish the difference between pure art and applied or industrial art—and we considered the economical aspect of all art. We realised that, so far from there being, as regards the action of the State and the traditions of our industrial and commercial life, encouragement or protection of this important side of life which makes for higher civilisation and improvement, there exists what we call the impedition of art: that the progress of art was impeded, the producers of the best art were prevented from readily reaching the wider public, or even from producing their best work. We then proceeded to examine some of these conditions detrimental to the advancement of art both as regards the State action and as regards the traditions of trade, and we even endeavoured to suggest remedies for these defects. We now finally come to deal directly with the advancement of taste among the public and with the proper training of those who produce our industrial art, be it in handicraft or manufacture. More especially I wish to deal with the direct action of the State by means of our state-aided educational system in furthering these two important ends. The discussion of this question is most apposite, because at this moment there is a considerable agitation carried on throughout the public against the prevailing system of state-aided art education, while the Board of Education is strenuously endeavouring to introduce important reforms into our national educational system, which should immediately respond to the widespread feeling of the need for such reform. Among the critics of our present system there even exists a body of men, whose opinions are well worthy of consideration, who frankly maintain that there ought to be no state-aided education at all. I may at once say that I do not believe such extreme views worthy of being seriously considered.

The most difficult question with which we have to deal in this respect is the development and purification of taste among a wider public and throughout the nation. It may even be said that taste cannot be taught, but will always follow in every period and in every locality the standards manifested by the artistic work which is produced in that period and country by the artists. These not only express the spirit of the age, but impress it with their own genius, and thus guide and lead the public in artistic appreciation. There is no doubt that the two go together, act and react upon one another—namely, the taste of the public as displayed in the works of those who cater for the public, and as again affected by their achievements. The same may be said, and has been said, of every aspect of the intellectual and moral life of a community.

In the report of the Select Committee on Arts and Manufactures appointed by the House of Commons in 1835 and 1836, which was directed to inquire into the best means of extending a knowledge of the arts and of the principles of design among the people (especially the labouring population) of the country, the reporters directly formulated their programme of not only furthering, as far as they were able to do so by the institutions that were then founded, the preparation of those who were to take up art industry as their business in life, but also the improvement of taste among the public.

Now, how can this be done? The only avenue through which the State can thus reach the general public is that of general education, through the schools (elementary as well as intermediate and secondary), and finally the universities. The sphere of activity in this direction lies chiefly with the intermediate and secondary schools. In the primary schools, however, though not so directly, cognisance must already be taken of that aspect of public education—namely, the development and encouragement of taste. These considerations ought to be merely negative, *i.e.*, in the avoidance of anything that will manifestly lower the taste. It has often been urged, and not unfrequently acted upon, that the surroundings of the child in the school buildings and in the class rooms should be as expressive of the beautiful as the prevailing good taste can make them. The Art for Schools Association set itself the task of producing at a low figure, within the reach of ordinary schools, carefully selected works of art from all the best periods of man's activity, with which to decorate the schoolroom, and thus to familiarise the child from its earliest days with things of beauty.

But it is chiefly when we come to intermediate and secondary education that so much remains to be done in the direct teaching of art in order to arouse appreciation of the best works, and thus to lay the foundations of the best taste. Now, there is one way in which I am decidedly of the opinion that such teaching of art appreciation is not to be carried on. This wrong method would be in leaving it to the teacher to make his personal selection as to what he (or she) considers, among all extant works of art, beautiful works to be admired and ugly ones to be condemned; and that such personal preference should even be applied in such artistic sitting-in-judgment on the part of the teacher when

* Abstract of the last of three Cantor lectures delivered before the Royal Society of Arts, and reported in full in their Journal.

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visiting with the class one of the public galleries or collections. The danger is too great that we should thereby encourage, not only one-sided and also distorted directions of taste, but also narrow that important quality of the mind, intellectual sympathy, and encourage that most insidious, as well as most dangerous and ultimately nefarious, intellectual and moral vice, dogmatism, which is ultimately nothing more nor less than a form of untruthfulness, a form of downright lying.

The honest and thorough student of art, the true critic, has learnt, above all things, to be sceptical of the dogmatic arbiter of taste who expresses in uncompromising terms his exaggerated approval or disapproval of great masters, of whole schools, of complex periods, and of whole regions of national art production. He has even learnt how each age may be swayed by a wave of injustice in its appreciation, or a want of appreciation of definite directions of art, and may have been entirely dominated by a fleeting and superficial wave of influence, which we call fashion. In every case the admiration, in itself justified, has led to onesidedness and, above all, negatively, to the condemnation or total neglect of every form of the same art which did not correspond to the single standard of one artist, or the one school held up as the model. And it is interesting for us to note the immediate effect on the commercial aspect of art; so that, to take but one instance as a type, the works of Murillo, which fifty and sixty years ago fetched the highest prices, are now comparatively on the lowest scale of commercial value. Perhaps I may be allowed to quote what I maintained in lectures and in print more than twenty-five years ago as to what our attitude is to be with regard to most of the eloquent, generally sincere, and refined art criticisms of this dogmatic order. I advised, and I still advise, "to follow them when they admire, but to flee from them when they condemn." I also then maintained "that people possessed of normal senses and appreciative power were always right when they sincerely admired, but that they were generally wrong when they attempted to give a reason for their admiration."

What I am endeavouring to show you is: that the teaching of art appreciation by means of the attempt on the part of the teacher directly to show you what to admire and what to condemn is futile and misleading. The only method of teaching art appreciation is the historical method. In fact, though I sincerely hope that especially the teachers of history and geography in such schools may be directly prepared by thorough courses in the history of art, and that proper text-books on these subjects for that purpose will ere long be forthcoming, the teaching of art history, with the proper demonstration and illustration accompanying it, will be directly associated in the schools with the teaching of history and geography, of which subjects it is to form a part. What Mont Blanc is to Switzerland the Parthenon is to Greece and the Sistine Chapel is to Italy. Let the teacher of geography remember this, ponder over it, and act upon it. By the inclusion of all the elements that went to the actual making of the life of the past and of the remote in space, you have avoided killing interest by the unintelligent appeal to mere mechanical memory, and you may set aflame the spirit of love and enthusiasm for the study which will greatly facilitate the grasping of the subject which you aim at teaching and imparting.

Now, what I definitely recommend is: that no teaching of any period of man's history or of any region of the earth's surface should be given without introducing an account of the artistic manifestation in the lives of these peoples in the various ages and in the various countries, supplementing such teaching by the actual exhibition of the past and most characteristic works, works then and there produced. While you will thus complete and perfect the historical and geographical teaching itself, it will, at the same time, directly be a means of acquainting the child with the best works of art in every period of man's history; you will train it in the habit of proper contemplation of such works and familiarise it with this class of observation, and you will thus lay the foundations of taste and of art appreciation.

As we thus rise in the grades of our educational system, so will this training become more thorough and more specialised, until, in the higher grades, we shall have set aside, even if only one hour a week, for the direct teaching of art history, to be supplemented wherever possible by visits to public institutions containing such works of art.

Taste, instead of being onesided and cramped, will become wide and catholic; and the great gain will be, that the child has learnt how to observe works of art through continued habit of observation, and, above all, it will, unconsciously to itself evoke in the students a general artistic mood, the æsthetic attitude of mind in which man realises that to produce great works of beauty is worthy of the supreme effort of men—nay, the supreme concerted effort of a civilised nation as a whole.

The boy and girl who have from their infancy upwards been given the opportunity of thus developing that artistic or taste side of life, will, along with the public among whom they live, and for whom they may definitely work in the direction of art-production, be well prepared to make the further step, should all the conditions be favourable, to devote themselves in their adult life more specially to the work of art-production. And this brings us to the direct preparation of those who are to produce, or assist in producing, works of art-industry.

Now, the Board of Education, in considering the reforms required to improve our prevailing system of state-aided art education, especially with a view to preparing the pupils for the advancement of art-industry, has rightly considered as most important the following points: First, that the art schools themselves, both metropolitan and provincial, required more logical co-ordination, corresponding both to the conditions and needs of the various centres where they existed, to the industries which are centred in the various localities, and to the gradual and organic progression from the simpler elementary teaching to the most complex and highest instruction in these subjects which the final national art schools in the larger centres, and especially in London, will have to provide.

It has been claimed that, in preparing the teachers for the several departments of art instruction, our system does not completely carry out the main object in such preparation, to produce, above all things, competent artists and craftsmen who, throughout their whole teaching career, carry on their artistic work in a professional spirit as teachers for any department of art, or arts and crafts, in the several schools.

If the recommendations which I have just proposed as regards the introduction of the study of art-history into all schools were adopted, the candidates for our special state-aided schools of art would come to them with some degree of preparation, not only in general taste and artistic appreciativeness, but also in some knowledge of art-history and of general history. But I claim that what is especially needed to improve the general status of our art-industries, to make this career as a whole a better and a higher one, and thus to attract a superior class of workers fitted for this most important function in our national, economical, and social life, is that this side in their instruction must be further developed and systematised in the schools directly devoted to the preparation of such art workers.

It is maintained by many that no design or ornament is correct unless it is evolved out of the process (even mechanical) which goes to the making of the object to which decoration of artistic quality is to be applied. And, further, that the essential fact is, and will ever remain, that you spend most of your time, concentrate most of your thought, curb all your imagination, and always and chiefly bear in mind the actual material out of which your thing is to be made, and not only watch and learn how they are made, but spend the greater part of your time in the actual making of them before you are prepared to design or decorate them. Now, this is a flagrant case in which a grain of truth is expanded into a mountain of falsehood. Let me admit once and for all—and I have then done with it—that it is an important, perhaps the essential, element in all design, that it should harmonise with the material to which it is applied and the process of construction out of which it is made.

There are not many processes involved, even in the manufacture of the most complex works of industrial art, which a person of ordinary intelligence and industry, well grounded and well trained before hand in every aspect of arts and crafts, cannot study and grasp, and absorb the elements which to him will become essential for the production of a proper design, during one month of attendance and careful and thorough study and investigation of the work done in the workshop or the factory. On the other hand, I maintain with equal confidence that a person who has not been trained to be a designer on the purely artistic side, whose taste has not been improved, whose observation and knowledge of all the most beautiful decorations that man has produced in the past, and is producing in the present, are not wide and thorough

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in every sphere, that such a man may work all his life in the factory and the workshop on the material and the mechanical processes of production and never produce a design worth looking at, still less worth purchasing. You may develop the pure artisan to the *n*th power and you will not produce an artist. But you can make a real artist feel the harmony between form and matter (which is the essence of all art, as Aristotle put it) even when it applies to the harmony of decoration with the material out of which the thing decorated is made and the process of its making.

I may inform those who hold the exaggerated theory as regards the relation between mechanical training and artistic designing, that the most successful and eminent of French designers, whose chief work lies in producing costumes which often set the keynote of Fashion for the whole world, at the same time produce and sell decorative designs for wallpaper and chintzes, and many other objects in which they chiefly deal as designers. I could give innumerable instances to show how the most successful designers, from a commercial and industrial point of view, conceived and produced their designs as works of pure art independently of immediate mechanical manufacture, and how this, as a matter of fact, led the way and struck the keynote of that evanescent taste called Fashion throughout the whole world, and thus gave direct and immediate employment to the manufacturers and the merchants in every part of the globe. But these men are, above all, artists. Their chief and distinctive quality causing their success lies in their taste, which guides their complete mastery over the technicalities of drawing, painting, or modelling, for decorative purposes; and this taste has from the beginning to the end been produced, encouraged and refined by their extensive knowledge of pure art in every direction, in all periods and schools and countries. And I maintain, with equal confidence and with equal emphasis, that you cannot produce such men unless their training includes this direct training in artistic taste in the variety and refinement given to their artistic imagination.

Yet it is here that our system of state-aided art training is especially defective. In the Royal College of Art we have a minimum of teaching in art history, cramped and discouraged. In our schedules of teaching and examination historic design does occur; but it is limited to the perfunctory and unintelligent enumeration and exhibition, and copying of some stock forms of decoration, chiefly in casts, which mean nothing, and can mean nothing to the student, and at best will lead him to the worst form of the mechanical copying of a few specimens of decoration from the chief historic sub-divisions of style, torn from their surroundings, their actual life, and all the depth of their meaning pressed out of them. The result is a complete misapprehension of their true artistic and historic nature on the part of the student.

Our special art students who are to be trained in decorative art to be applied to our industries have to face two main sub-divisions in their future work, for which this training is to prepare them—(1) historical, and (2) originative. I would take the second first, as I cannot deal exhaustively with this subject here, excepting from one point of view. The task before the designer is to be original, to produce new and original patterns and designs. This is greatly a question of his artistic imagination, which it is most difficult to effect by teaching, and impossible to produce directly. It can only be encouraged and, at best, guided and indirectly modified. In the criticism of the achievements of the student in such work the teacher can introduce a vast and important amount of negative criticism without curbing or crippling the imagination of the student.

But the more positive guidance and modification of the original designer's imagination belongs to the domain of what in one word we have hitherto called taste; and this taste can only be intensified and purified, if not actually produced, by the most adequate, continuous and vitalised study of the pure art in every great period of man's achievement, as well as of the special decorative arts with which the student will be directly concerned in the work of his after life. It is the erroneous opinion that ignorance favours originality, or, rather, that originality is killed and impaired by the knowledge and the appreciation of the originality of others; that the study of the best art of the past, in proportion to its completeness and intensity, destroys the originality and spontaneity of the worker in the present. I may at once say that this is the case when art teaching and art production become purely academic, formalistic, and pedantic; and I at once admit that the ordinary and current teaching of historic design may have this effect.

The first result of the historic teaching I am here advocating is not to be directly connected with the reproduction of any one style or school of the past, but it is indirectly, though none the less potently, to culminate in the vitalisation and refinement of the taste of the art student, to cause him to dwell in the fructifying atmosphere of great and elevating art, living art, directly connected with the life of the peoples that produced it, out of which life it grew, and which life it reproduces for us in the most expressive, most illustrative, and most potent form. This will not kill his originality, but it will widen and intensify his artistic nature as a whole; and in thus widening and intensifying his artistic sympathy, his artistic altruism and imagination, if I may call it so, it will lead him back to his true self, which has thus not been submerged or weakened, but has been made a better self artistically. He then can, and will, be original; but his originality will be truly artistic and not merely eccentric. The great object in such teaching will always have to be that every definite work of art, to whatever class of art production it may belong, will have to be presented to the student as a living thing, and not as a dead fragment of a thing that once lived.

The industries which are to cater for our taste in every form of our actual living must realise, and must respond to, the fact and the need that we appreciate, and always will appreciate, the Egyptian, the Greek, the Oriental (especially the Persian and Indian), the Byzantine, the Mediæval and Gothic, the Renaissance (both in Italy and in France), the various styles of French art in the seventeenth and eighteenth centuries, the Early, Middle, and late Georgian in England, the art of China and Japan, and even of the South Sea savages and the dwellers in Central and South America. Now, the public demands, and will demand, that its taste for these various forms of artistic expression should be realised, not mechanically and piecemeal, but in the very essence and spirit of these styles which evoke its admiration. And it is right that this should be so; because this sifting process of time and change, we may reasonably infer, has selected the wheat from the chaff and the gold from the dross, and *has* enriched our lives by presenting us with the quintessence of what was best in man's past.

Now, in choosing his designer, the manufacturer requires that he be able to direct the production of goods in the artistic forms which they are to express, and that he be conversant with these various styles and be able to apply them to every work; so that they should be most fully expressive of the spirit and essence which underlie the vitality of the works of the past and have evoked universal admiration of the people in every part of the civilised world.

But, in order to succeed in this most arduous and delicate task, the training of the industrial artist and designer must be very different from what it is now. The first principle—nay, axiom—upon which I insist is, that no designer can adequately reproduce or realise even the smallest particle of decoration belonging to a given style without having imbibed into his artistic nature the wholeness of that style in every manifestation. He can only do this, moreover, by having been brought completely to realise the relation of that small particle of definite ornamentation to the whole work which it decorated, to all the different objects and articles which go to the making up of that style, and, finally, to the pure art, the pictures and statues, if possible the poetry and the drama, the music and the dancing, of that one period. And still further, his definite artistic knowledge will be incomplete unless it is supplemented by the social and political history of the period. You must know what life in the mediæval castle, or in the monastery or church, was like in the Middle Ages in order to understand the nature of their work, their furniture, their pictures and statues, and the numerous articles of peace and war so beautifully decorated. You must realise that the mediæval knight wore armour, and that his life, whatever its more peaceful joys and refinements, was out of doors rude and rough, in order to understand why he built his castle and not his palace or country house or villa; and, when you follow him over the drawbridge and under the portcullis, through the court and up the winding stone stairs into his hall, or his chamber, you must understand that the furniture upon

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which he is to seat himself and the cups and tankards and vases which are to be placed on the oak table for his refection, that these were thus to serve a man weighted down by armour or heavily clad in boots and leather jerkin. That of itself will teach you a good deal of the essential spirit of his domestic art in the decorated implements which surround him and which he uses. If you turn from him to Versailles and the Trianon, and have realised, even though only in outline, what the life of the "Grand Monarque" and his successors and their courts was like, you will then understand how the fittings and furniture, and all the articles serving such a life, must differ essentially from the Gothic interior of the mailed knight and the character and style of every article of their art-industry—you will understand all this and begin to realise the meaning and the spirit of the smallest element of decoration which expresses such life as it represents that style.

I maintain that, instead of the perfunctory instruction in what has been called historic design, our art students who are to become industrial designers ought to be taught (supplemented by most adequate illustration) the history, not only of these designs in the various arts and crafts, not only of the wholeness of the art of each period and country, but of that art in its relation to the social and political life of each period. The teacher (or, for that, the text-book which deals with such subjects) ought to begin by a carefully prepared sketch of the political events of each period with which he is dealing. This sketch is to be further filled in with a well-composed reproduction of the social life of each period, copiously illustrated by reproductions of the buildings, exterior and interior, in which this life enacted itself, and then of the artistic life of these peoples, with touches—if only mere suggestions—of the poetry, drama, and music, but more especially with properly chosen specimens of the fine arts of the period; and then may follow, after this necessary introduction, the presentation of any one department of art-industry with which the teacher or the student is specially concerned. But in every case and always, the historical and organic unity of all these manifestations is to be insisted upon, so that the total result and the total impression which the student receives are living as regards the artistic style of each period. His study of the special manifestation of industrial art, be it in textiles or in metalwork, or pottery, or furniture, can after that not be too minute and searching; but it will all fall into its proper living place in the life out of which the style grew, and especially in the mind of the student himself.

Finally, allow me to impress upon you the important fact that, not only will his specifically technical knowledge be more thorough and complete, not only will his taste be widened and refined by such a process of instruction, but—a fact surely not to be despised—you will add to the general education of the student, in which at present he is so painfully wanting; you will have made him more a man of the world, the world in which he is to live and for whose wants and tastes he is to cater. And I doubt whether there be anybody who will gainsay me when I maintain that this is in itself a great advantage.

There is one point left of the utmost importance in dealing with the commercial aspect of art, which has occupied us during these three lectures—that is, the true nature, the origin and the effect of what is called Fashion, upon industrial art. This important subject requires close scrutiny and very patient and thorough study. I doubt even whether I could do justice to it in one whole lecture devoted to it; but I may here say that I believe that such a study would well repay us in the interests of the promotion of that part of our national life, the advancement of which we all have at heart.

RECENT DEVELOPMENTS IN SCHOOL BUILDING.

IN the Architectural and Engineering Section at the Royal Sanitary Institute Congress at Blackpool, Mr. W. B. Fletcher read a paper prepared by Mr. F. S. Biram and himself on the above subject, of which the following is an abstract:—

Considerable attention has been given to the planning of school buildings within recent years, and in no class of building have greater activities taken place, resulting in the rapid development of school planning from the type first favoured (the central hall type), passing on to the lateral hall type, in which much variety and ingenuity of planning has been shown, to overcome the many difficulties of ventilation and lighting presented by the former, to the more advanced type of plan in which the desiderata are an isolated assembly hall, with classrooms entered from corridors, and through ventilation provided for each room, principles of planning which are now generally recognised.

In 1907 we designed, and, after much discussion with the Board of Education, obtained their approval of plans for a school for the St. Helens County Borough Education Committee, planned on lines which were a new departure in school planning, and in which these principles were embodied. The school is planned in the form of a letter E, the frontages following the boundaries of the site, the centre wing dividing the playgrounds. The assembly hall is in the centre of the main frontage, and the remainder is occupied by classrooms and the necessary cloakrooms, which are entered from a corridor running the full length of the building and planned on the playground site, the boys' and girls' departments being respectively on either side of the assembly hall, with the centre wing planned as a future addition for infants, the assembly hall being for the joint use of each department. The original plan showed accommodation for 1,140, obtained by two classrooms of sixty each and remainder by classrooms of fifty each, the boys' and girls' departments being built accordingly.

In 1910, when the extension for the Infants' department was under consideration, the Secretary for Education, Mr. Percival Sharp, now Director of Education, Newcastle-on-Tyne, suggested that, in view of the possibility of the Board of Education reducing the maximum sizes of classes allowed under one teacher, and in order that classrooms could be made to meet the varying numbers into which it is necessary to arrange the classes, there be a system of sliding partitions adopted to obtain elasticity of classroom accommodation. In itself this was a bold suggestion, and, if it could be turned to practical advantage and successfully worked in actual practice, there was no doubt much would be accomplished towards the reduction of wastage of accommodation and the cost of staffing, which must inevitably arise where classrooms are of a fixed size.

The question then became one of the practical adaptability of sliding partitions to meet the varying sizes of classes and to arrange the details of the building to meet such modifications as would be made from time to time to obtain different sized rooms.

All these details were carefully worked out and the extension built. That the result has been successful and practical is shown by the fact that the St. Helens Education Committee have adopted this system of partitions for all schools since built by them.

We now propose to discuss briefly the various points to be considered in the designing of a system of this kind.

The first consideration is to determine the distance apart at which the tracks for sliding partitions shall be placed; this distance multiplied by the width of the room giving a definite unit of accommodation per section, from which the necessary size of any classroom desired within the limits of this unit can be obtained. It will therefore be seen that the smaller the accommodation provided by each unit, the greater the facility of obtaining classrooms to meet actual requirements. Considerations of general construction are, however, factors in determining this distance, at least one window being required to each section. It has been found advisable to place these in pairs, with a dividing brick mullion to take the wall-piece to receive the partitions, the necessary amount of intervening wall-space determining the distance apart of the tracks. This we have found to work out at 5 feet 6 inches, giving a unit of accommodation per section of 13.5, allowing a classroom of 40 to be made up of three sections, 54 of four sections, or any other multiple of the unit.

Having obtained this unit, it then only remains to plan the accommodation required into convenient sized blocks of classrooms; the length of each block is, of course, governed by the total accommodation, and the manner in which they are planned to meet the limitations of the site, so far as is possible, dividing the accommodation into equal parts. The total of 400 to each of the larger departments is obtained by two blocks of 210 and 190 respectively, and of 320 to the smaller department by two of 160.

The doors are arranged in pairs with a dividing mullion,

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allowing one door to each section, the mullion being arranged to take the wall piece for the partitions, so that for any size of classroom which is formed the door is always in the correct position for the desks. The remaining doors not in use are locked, and form a glazed screen.

The heating requires special attention, and is obtained entirely by radiators with mains in ducts below the floors, the radiators being placed in recesses under the windows to allow the partitions to be run along the wall when being moved into a new position. This arrangement allows for a minimum projection of tracks and wall pieces from the wall, which, if pipes were used above the floor, would require to be of a sufficient projection for them to pass through, and would be very unsightly.

The partitions are of pitch-pine framing two inches thick, and are made in three sections to form each partition, and run on steel tracks grooved into a wood cill-piece of the same thickness as the wood-block floor. Switches are provided at the junction of the cross tracks with the wall track, which enable the partitions to be placed on any of the tracks provided, and when any or all are not in use they can be run to the end wall of each block, where a siding of the number of tracks to coincide with the number of partitions in use is provided.

The number of partitions to be used is determined by the number of classrooms into which it is desired to divide up each block. We have provided five for the blocks of 210, four for the blocks of 190, and three for the blocks of 160 respectively.

The partitions have blackboards, formed in the framing, the full width of the partitions on the teacher's side, and this dispenses with easels and boards. The teachers' cupboards are arranged to run on ball-bearing castors, and have pull handles to enable them to be moved as required.

The classroom windows are patent ventilating windows, the centre portion being vertically pivotted and mechanically operated to remain open at any desired angle, thus deflecting air currents into the room. The fanlights are horizontally pivotted; the lower portions are fixed so that the air is admitted above the level of the children's heads. These windows have been fitted throughout the St. Helens Schools, and have given very satisfactory results. Roof ventilation can be dispensed with, and the Board of Education will approve plans without this provision when windows of this type are used.

The corridor windows are vertically sliding sashes, and can be opened to half their total area. The openings being made as large as possible, the corridor becomes practically an open-air one when full advantage is taken of the window openings. Cross ventilation is provided by opening fanlights over the doors; but in the plan this is being superseded by windows with opening sashes, the corridor having a flat roof for this purpose. Supplementary lighting is thus obtained, and the admission of sunlight throughout the day is ensured from either one or other side.

The dado is of brown salt glazed bricks with cement joints; it has a pleasing effect, and provides a hard-wearing and clean surface at a reasonable cost, and is, in our opinion, one of the most necessary provisions in any school from a sanitary point of view.

The corridors and cloakrooms are laid with red adamantine tiles, our experience being that this provides a more reliable floor than is obtained by a jointless floor, in which cracks invariably take place. The remaining floors are of pitch-pine rift-sawn wood blocks.

The cloakrooms are heated by hot-water rails, on which the hat and coat hooks are fixed, wire mesh divisions keeping the clothes apart.

The plan is arranged on the site to follow its boundaries; the classrooms are set well back from the road, and the space in front planted with shrubs; the remainder of the boundaries are also planted with a belt of shrubs.

The playgrounds are naturally divided up for the respective departments by the building itself, and are paved with asphaltic limestone, well drained, with good falls to gullies.

To plan schools on the lines discussed in this paper necessarily involves a fairly large site, but many recent plans have obtained the isolated hall and cross ventilated classrooms by placing them on each side of a low corridor with ventilating windows over, thus giving a slightly more economical and compact plan, with a proportionate reduction in the area of the site, although it will, we venture to think, be readily admitted that the single block of classrooms has much to commend itself, and, where suitable sites can be obtained, this type of planning is much to be preferred.

It will also be seen that the many constructional arrangements which are necessary to provide the system which has been discussed, such as duplication of doors, windows, artificial lighting positions, &c., together with the extra cost of the partitions themselves over the provision of walls, of which, apart from their being much cheaper, less in number are required; the cost per head of a school must necessarily be greater than where fixed classrooms are used, and this extra cost we estimate at about £1 per head.

DISCUSSION.

Mr. Willis (Chiswick) said that as architect to an education authority he thought they were greatly indebted to the author for the paper. It was extremely novel, and for the moment he did not know whether he was in entire agreement with it. Theoretically it was ideal, as no doubt they had to consider the future in all their designs. What they were aiming at was to start with reduced area class rooms, but at the present time that was rather extravagant because the Board of Education would allow sixty in the class room, and to build a room for forty-eight looked like their failing to take advantage on behalf of the ratepayer of the larger accommodation allowed at the present time. His principal feeling, however, was with regard to partitions. A two-inch partition was not sufficient to entirely shut out the noise from an adjoining class room, and that was a difficulty he foresaw in the arrangement suggested by the author. The means for carrying out the arrangements were good so far as he could see, but he would like to know what their experience was of noise. He believed the teachers were not favourably disposed towards such an arrangement.

Mr. Jenkins (Finchley) said they had just opened a large school in his district where the arrangement was very much the same as that mentioned by Mr. Fletcher. The author had not given them the cost per head per child, nor did he mention what the walls above the dado were composed of. One thing he noticed in the design was that the corridor turned the assembly hall into an enlarged corridor and he thought that was inadvisable. At Finchley they had carried the corridors past the main hall which was a very great advantage. He thought the use of partitions was undesirable. If they carried them up to the roof they were unwieldy, whilst if they did not carry them up to the roof the noise from adjoining rooms made them almost useless.

Mr. Fletcher, in reply, said they were out to obtain the greatest amount of information possible with a view to improving their schools. He gathered that the general objection to the scheme of partitions was that of the noise which was perceptible between the two class rooms. He was not going to suggest that nothing could be heard, but he did say that they had had two large schools in actual work with 1,000 children in them and they had not experienced the decided disadvantage of noise which was suggested by the two speakers. So much was that so that his committee were prepared to go ahead with that type of plan. If they had class rooms of different sizes there was considerable wastage of accommodation. With regard to cost, all connected with building would realise the enormous jump that had taken place in the cost of any building of recent years. They started building their schools at a cost of £10 to £11 per head. These were buildings in good class style and there was no attempt to cheapen them. The cost had been gradually going up, and according to the tenders they received about three months ago it now worked out at £13 13s. per child. They finished their walls above the dado with plaster.

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. FRANCIS BUMPUS.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

(*Continued from page* 255.)

THE RENAISSANCE.

THE dome of Sta Maria della Grazie at Milan is certainly the most satisfactory of any of Bramante's works, and, as Fergusson says in his "History of Modern Architecture," "Had the architects of the succeeding age been only content to work with the moderate amount of Classical feeling found in this building, we should have had no cause

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PHOTOGRAPH BY A. DE MATTIA, BARI.

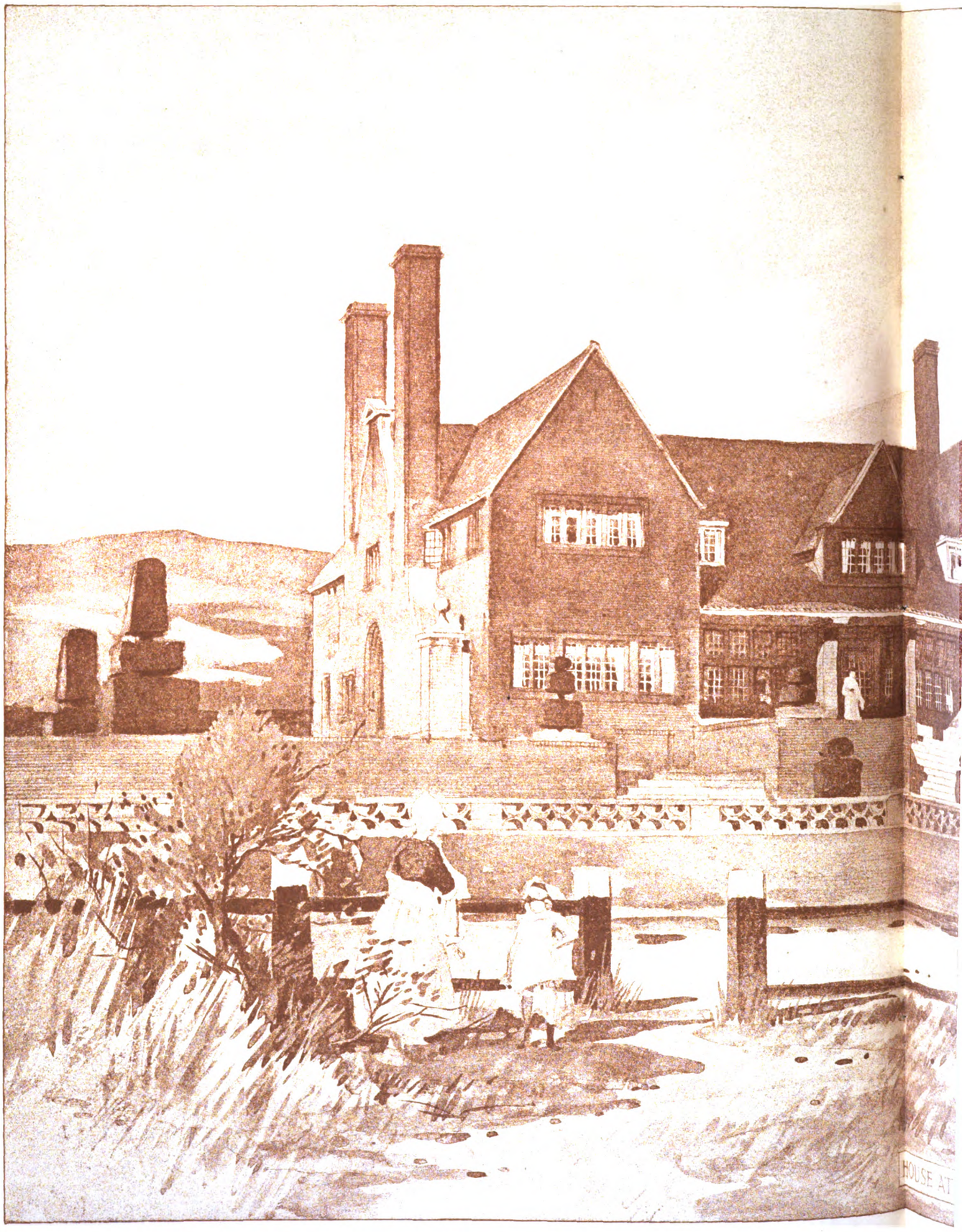
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INTERIOR OF CATHEDRAL, TRANI.

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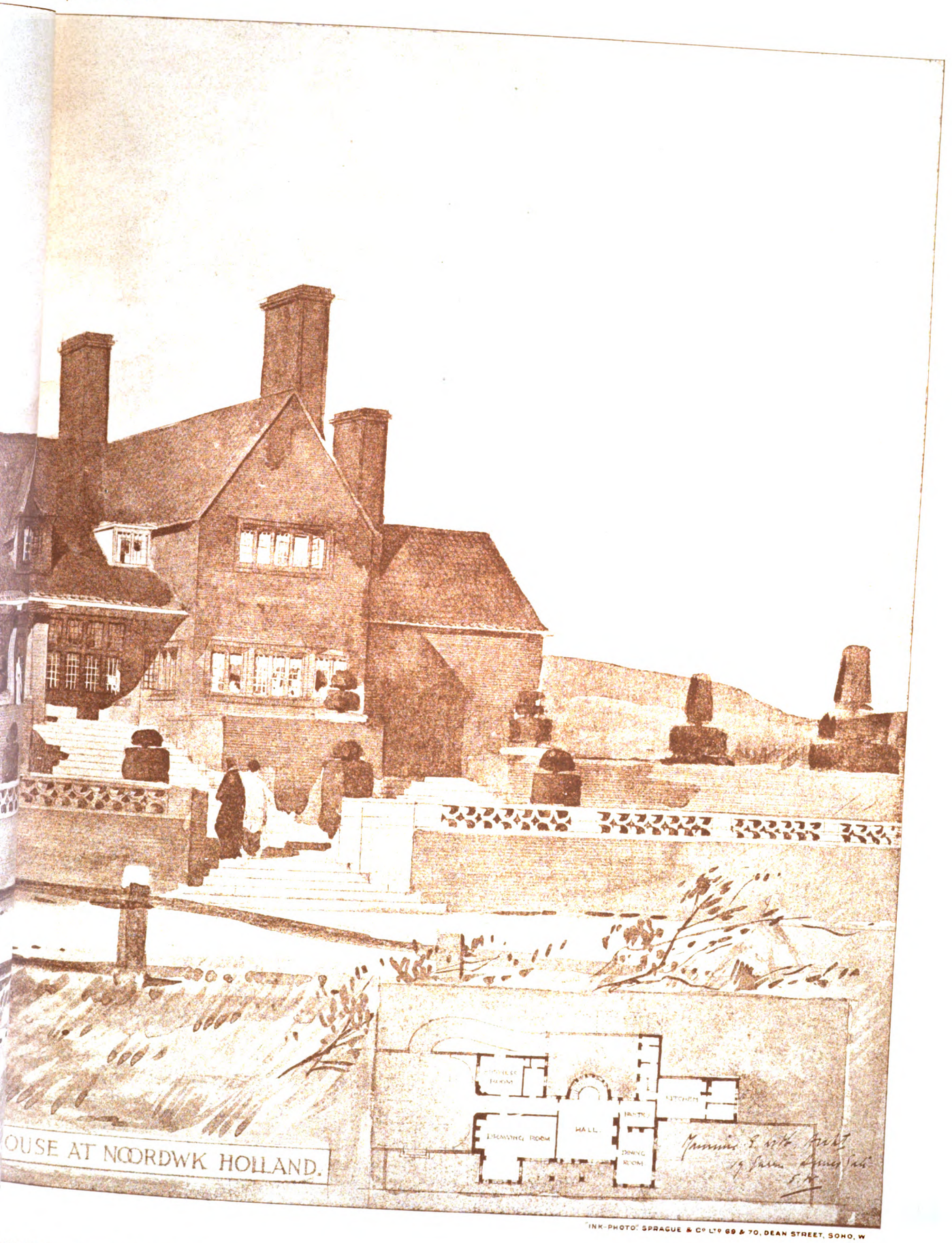


MR. MAURICE E. WEBB, PRESIDENT ARCHITECTURA

(Royal Academy Exhibition, 1914.)

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OUSE AT NOORDWK HOLLAND.

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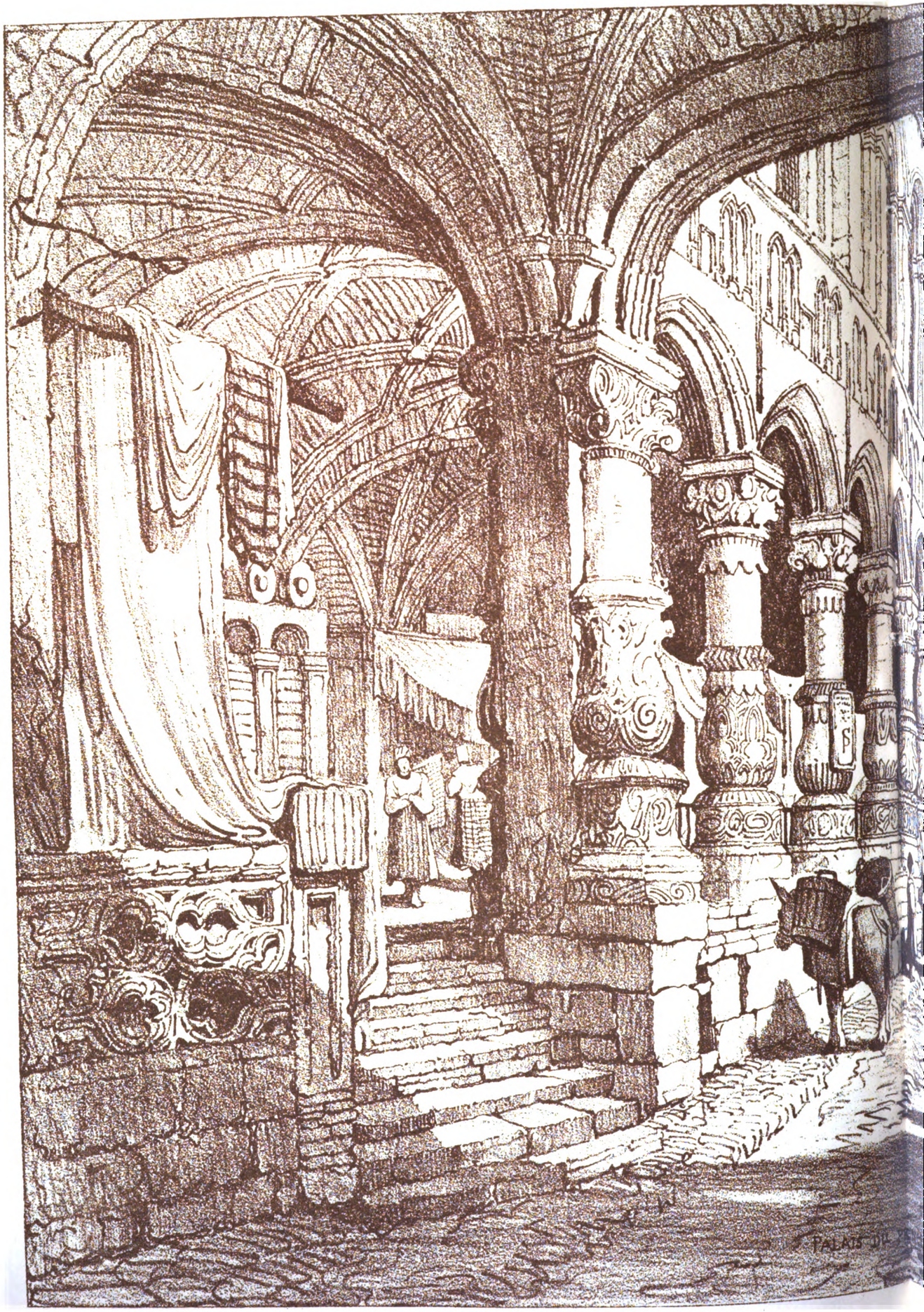
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COURTYARD OF THE PALAIS D
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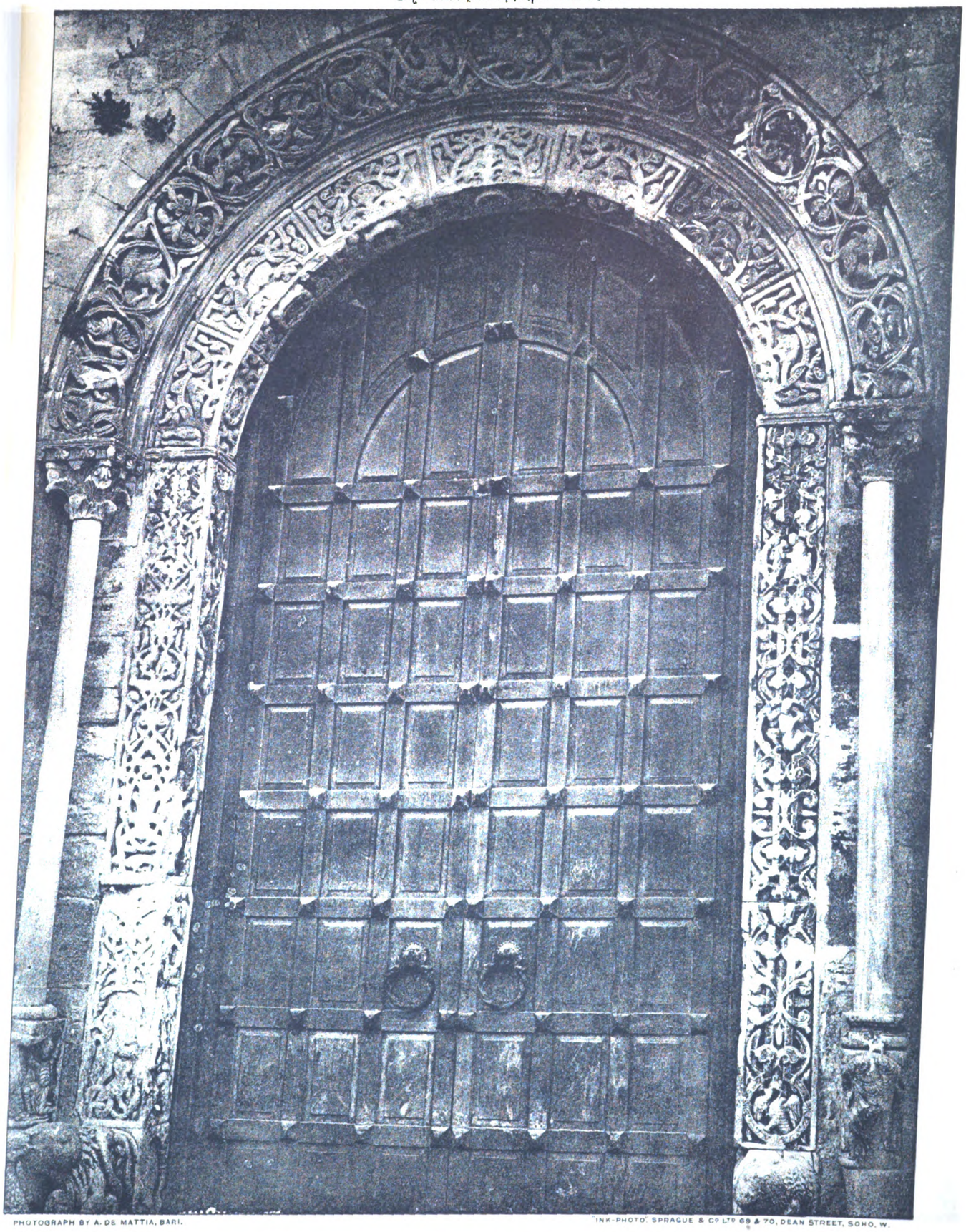
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DOORWAY FROM CATHEDRAL, TRANI.

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to regret the loss of the Gothic style; but the temptation to employ great pilasters and pillars, whose real recommendation was that they covered the greatest amount of space with the least amount of thought, was more than human nature could resist, on the part at least of men who were more artists and amateurs than architects."

Unfortunately, Bramante superintended the works at St. Peter's for seven short years only, and from the end of that period began a series of petty squabbles and changes of the architect, resulting in the utter ruin of Bramante's noble scheme. Raphael and Fra Giocondo superintended from 1514 to 1520. Under them plans were prepared for elongating the nave to about its present length. In 1517 Antonio da San Gallo was also appointed, and from sketches still extant it is clear that immense developments in the Vatican basilica were contemplated, and any one of them far superior to the building as now carried out, but perhaps not so beautiful, as a complete idea, as the original plan of Bramante.

Baldassare Peruzzi had the direction of the work from 1520 to 1536, and his studies, still in existence, show that great retrenchment was the order of the day. He made some improvements on Bramante's original design. The peculiarity of this design was the semi-circular termination to each arm of the cross, and the porches were also semi-circular in plan, with three doorways in each, and the high altar was placed centrally. This arrangement has been much commended, and has been partially carried out, but the cupolas designed to cover the whole have not been executed. One or two of Peruzzi's plans suggest buildings of singular beauty, with a nave but little longer than the other arms of the cross, and small columns introduced (an idea faintly indicated in Bramante's plans), giving interest to the dreary immensity of the gigantic pilasters rising from the floor to the coffered waggon vault. He seems at least to have come to a plan based on the Greek cross, and much resembling Bramante's.

The two brothers, Giuliano and Antonio di Sangallo, flourished about this time. They were the sons of an architect, Giamberti, whose works have not been greatly praised, and, being educated as engravers, ultimately turned their attention to architecture. The principal works of Giuliano were the cupola of the church of the Madonna di Loretta at Rome, built by the order of Alexander VI.; the fortifications of Ostia; the castle of Montefiascone, for the Duke of Valentino; and he latterly superintended the building of St. Peter's under Leo X.

Antonio Sangallo, the younger, has left many excellent works as evidence of his talent, one of them being the Annunziata at Arezzo, and his designs for St. Peter's were replete with originality, and differed greatly from those of Bramante. He took the Greek cross of Peruzzi, adding to it a species of vestibule and a vast façade outside of this running from north to south, with towers projecting beyond. By this time the building of St. Peter's was considerably advanced. The four great piers and the arches to carry the dome were all complete. Much of the surrounding work of the eastern arm and transepts was also finished, and those arches which form the first bay of the nave.

Now Michel Angelo comes upon the scene (1546-64). He treated San Gallo's plan most ruthlessly, abandoned the vestibule and everything in the nature of aisles or side chapels, and reduced the scheme to one of the extremest simplicity. Doubtless the vastness of the dimensions would, with fine detail, have made this a most impressive interior, though far inferior to the effect that Bramante's or San Gallo's designs would have produced; but he did his best to utterly destroy all impressiveness by the huge and vulgar nature of the detail. The Greek cross was completed and the substructure of the dome partly reared and, shortly after his death, roofed in.

Early in the seventeenth century it was decided to extend the nave. The work was entrusted to Carlo Maderno, and thus St. Peter's assumed that form with which most people are familiar.

The Italian mediævalists showed but little originality in the plans of their churches. It was for their versatile successors of the Renaissance to show what variety of treatment was possible in work of this kind. Venice, perhaps, more than any other place in Italy illustrates this most forcibly, for out of the immense number of churches one sees there of that period, hardly a single one repeats the same plan; the peculiarities of the various sites, and the epoch being so favourable to architecture, may have had much to do with this. Not only in Venice, but all through Italy, one finds illustrations of this genius; plans circular, elliptical, octagonal, and rectangular, and combinations of these forms in endless variety.

(To be continued.)

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BEDFORDSHIRE.

Bedford.—Workhouse: additions. Messrs. H. Young & Son, architects, 35 Maitland Street.

Kempston.—"Shoulder of Mutton" Inn: alterations. Mr. A. Inskip, architect.

BERKSHIRE.

Abingdon.—Hospital: observation pavilions and additions to the administrative block, &c. (£2,200).

Wokingham.—Proposed eight cottages, Barkham Road (£1,600).

BUCKINGHAMSHIRE.

Aylesbury.—Council cottages, Oxford Road.

High Wycombe.—Three houses, Oakbridge Road, for Mr. H. T. Dickens.

Stores, Paul's Road, for Mr. R. H. Butler.

CHESHIRE.

Macclesfield.—House, Barracks Lane, for Mr. A. Green.

Five houses, Ryle Street, for Messrs. Cooper Bros.

CUMBERLAND.

Carlisle.—Council School, Newtown (£6,200).

Proposed Technical School.

Dalston.—Pair of cottages, Rosebank Farm, for the Ecclesiastical Commissioners.

DERBYSHIRE.

Derby.—Bemrose and Devonshire Library; also additions to Central Library and Art Gallery. Mr. T. H. Thorpe, F.R.I.B.A., architect, 23 St. James' Street.

DEVON.

Teignmouth.—Domestic Economy Centre. Mr. P. Morris, A.R.I.B.A., County Education architect, 1 Richmond Road, Exeter.

DURHAM.

Ludworth.—Council School for 350 places.

Witton Gilbert.—Council School for 320 places.

ESSEX.

Chelmsford.—Proposed Council Schools, Lady Lane, and in the North Ward.

Colchester.—Infectious Diseases Hospital, Mile End: Tuberculosis and scarlet fever pavilion, also additions and alterations to the administrative block (£3,110).

Harwich.—Eight Council houses, Albert and Vansittart Streets.

Southend-on-Sea.—Twenty-four to twenty-eight workmen's houses (£4,800 to £5,600).

Tilbury.—125 Council houses in the South Ward.

HAMPSHIRE.

Portsmouth.—Tuberculosis Hospital (for forty beds), Langstone (£6,800).

HERTFORDSHIRE.

Digswell, Welwyn, and Woolmer Green.—Working-class dwellings.

LANCASHIRE.

Blackpool.—Clifton and Pier Hotel: extensions. Messrs. Gorst & Son, architects, 7 Birley Street.

Bolton.—Council School (for 800 places), Great Lever.

Offices, Junction Lane, Lostock, for Messrs. W. Heaton & Sons.

Brierfield.—Infants' Council School, Taylor Street. Mr. H. Littler, County architect, 16 Ribblesdale Place, Preston.

Oldham.—Firemen's dwellings, Chapel Street. Messrs. Winder & Taylor, architects, 61 Union Street.

LINCOLNSHIRE.

Boston.—Working-class dwellings (£8,350).

Brigg.—Artisans' dwellings.

MONMOUTHSHIRE.

Newport.—Council houses, Somerton.

NORFOLK.

King's Lynn.—Bakery, Arthur Street: additions, for the King's Lynn Working Men's Co-operative Society.

All Saints' Church Room, London Road: additions and alterations.

NORTHAMPTONSHIRE.

Crick.—Council School. Messrs. Blackwell & Riddey, A.R.I.B.A., architects, 53 High Street, Kettering.

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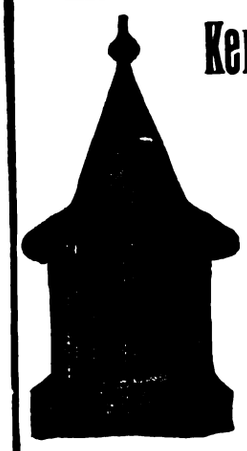
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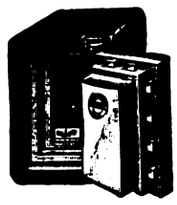
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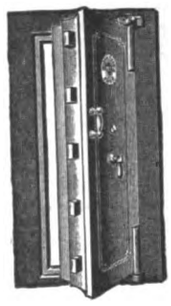
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ENGLAND—*continued.*

NORTHAMPTONSHIRE—*continued.*

Holcot.—Council School: rebuilding. Messrs. Law & Harris, F.R.I.B.A., architects, 1 Sheep Street, Northampton.

NORTHUMBERLAND.

Tynemouth.—Elementary school, caretaker's house, &c., Spring Gardens, North Shields. Mr. A. E. Tasker, A.R.I.B.A., architect, 2 John Street, Bedford Row, London.

Mansfield.—Council School, Chesterfield Road.

Nottingham.—Council School (for 600 places), Derby Road.

OXFORDSHIRE.

Dorchester.—Working-class dwellings.

SOMERSET.

Bridgwater.—Council houses, Basonbridge (£860).

Radstock.—Bakery premises. Mr. W. F. Bird, architect, The Island, Midsomer Norton. Messrs. Coles Bros., contractors, Peasedown St. John (£5,636).

STAFFORDSHIRE.

Newcastle-under-Lyme.—Workhouse: Receiving Home for Children, Gallows Street Lane.

SUFFOLK.

Henstead.—Workhouse: proposed children's home (£900).

SURREY.

Farnham.—Isolation Hospital: Porter's lodge and discharging block.

Frimley.—Proposed Council School, Frimley Road.

Oxted.—Council School, Merle Common, Staffhurst Wood: enlargement for additional one hundred places.

Woking, Old.—Twelve pairs of working-class dwellings.

SUSSEX.

Burgess Hill.—Congregational Sunday School, Prospect Place.

Lancing.—Public Hall.

Wick.—Isolation Hospital: extension (£3,000).

WARWICKSHIRE.

Birmingham.—Swimming Bath, George Arthur Road, Saltley.

Meriden.—Proposed garage, Bickenhill, for Mr. G. W. Wynne.

Fillongley Lodge: additions and alterations, for Mr. J. C. Adams.

Nuneaton.—Five houses, Croft Road, for Mrs. T. Petty. Six houses, Arthur Street. Messrs. G. Smith & Sons (of Chilvers Coton), builders.

WESTMORLAND.

Staveley.—Infants' Council School.

WORCESTERSHIRE.

Bretforton.—Cottages (£3,850), for Evesham R.D.C.

Droitwich.—Police buildings (£3,600).

Evesham.—Fifty-two Council houses, King's Road. Mr. H. E. Dicks, architect, 1 Market Place.

Harvington.—Cottages (£3,100), for Evesham R.D.C.

Honeybourne.—Cottages (£1,750), for Pebworth R.D.C.

Worcester.—County Offices (£10,000).

YORKSHIRE.

Ecclesall.—Workhouse: Children's hospital (£5,900).

Hemsworth.—House for Mr. J. W. Lee.

Ingleton.—Council school for 600 places. Education architect, County Hall, Wakefield.

Sheffield.—Public Baths, Penistone Road (£15,000) and Wincobank (£1,350).

Central Laundry, near Penistone Road (£3,100).

Public Wash-houses, &c., Upperthorpe (£4,700).

York.—Twenty-eight cottages, Fulford Field House Estate, for the tramway workmen (£6,850).

Manor School, Love Lane, Clifton.

WALES.

Llanelly.—Sixty-one workmen's dwellings.

Port Talbot.—Aberavon, Port Talbot and District Hospital. Mr. F. B. Smith, architect, St. Oswald's Chambers.

Rhyl.—Amphitheatre (£4,000).

Isolation Hospital: administrative block (£600). Mr. A. Torkington, contractor, Sussex Street.

Pumping Station.

Treflyn.—Welsh C.M. Schoolroom.

SCOTLAND.

Dundee.—Works, Hillbank Road: additions, for Messrs. J. Scott & Sons, Ltd.

Glasgow.—Fire Station, Partick: additions and alterations.

Larne.—Two shops, Dunluce Street: rebuilding. Mr. Gilliland, architect.

Lochwinnoch.—County Sanatorium (for 118 beds) and farm colony, West Mitchelton and Peockstone (£51,500).

Montrose.—Royal Infirmary: Laundry reconstruction.

IRELAND.

Cookstown.—Technical school. Messrs. Fennell (F.R.I.B.A. and F.R.I.A.I.) & Clark, architects, 2 Wellington Place, Belfast.

Keady (Co. Armagh).—School. Clayey. Mr. J. J. McDonnell, architect, 27 Chichester Street, Belfast.

PATENT SPECIFICATIONS PUBLISHED SEPTEMBER 17, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 9,086. Nov. 13, 1913.—W. G. Wakeham, 13 Woodland Terrace, Greenbank, Plymouth. Windows of houses, shops, offices, ships' cabins, corridors, alleyways, and the like.

14,527. June 23, 1913.—W. H. Brown, The Knoll, Poppleton, near York. Wire-meshed reinforcements for the horizontal mortar joints of walls composed of bricks or blocks. And 14,528. June 23, 1913.—Bond ties for walls composed of separate units, such as bricks or blocks.

18,946. Aug. 20, 1913.—T. F. Shillington and C. D. Armstrong, 152 Albert's Bridge Road, Belfast. Hot-water heating systems.

19,037. Aug. 22, 1913.—J. J. Fraser, Unsworth Hall, Whitefield, Manchester. Composition for covering walls, floors, and other surfaces, and process of transferring or copying printed designs and patterns from cloth and the like on to such coverings.

19,298. Aug. 26, 1913.—R. R. Gibbs, 259 Mill Street, Liverpool. Non-return valves.

19,877. Sept. 2, 1913.—T. J. Fleming, 2nd and Spring Streets, Los Angeles, California. Cement kilns and the like.

21,088. Sept. 18, 1913.—George Anderson & Co. (1905), Ltd., and W. E. Debrunner, Taymouth Engineering Works, Carnoustie, Forfar. Band-saws for cutting stone and the like.

10,168. April 24, 1914.—Chas. Wicksteed, Stamford Road Works, Kettering. Baths and the like.

12,027. May 15, 1914.—Andrew Yurow, 501 West 135th Street, New York. Jemmy-proof lock.

11,631. May 19, 1913.—Dated under International Convention, September 11, 1912. Albert Gopfert, Blumenbach, Moravia, Austria. Manufacture of asbestos slabs, artificial stone, or the like.

29,927. Dec. 30, 1913.—T. H. Warner, 37 Rectory Road, Ipswich. Sluice, wedge, and like sliding valves with plane surfaces.

3,554. Aug. 15, 1913.—E. R. Calthrop, Eldon Street House, Eldon Street, London, and Richard Churchill, 60 Duke Street, Grosvenor Street, W. Joints and couplings with valves for pipes and tubes.

7,689. March 26, 1914.—Frederick Fox, Central Iron Works, 76 Thornton Road, Bradford. Trap doors.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

R.I.B.A. New Charter.

SIR,—I should be much indebted if you can see your way to the publication of the correspondence, copy of which I enclose, which has taken place between Mr. F. A. Winder and the President of the Royal Institute, British Architects, regarding the suspension of the proceedings towards the granting of a new Charter.

Mr. Winder has gone to the Front, and, being over age for this myself, I have taken up the administration of relief funds in Sheffield.

As many of our supporters are wondering what effect the war has made to our action, and many of them are,

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no doubt, readers of your paper, you will greatly oblige us if you can find space for this matter in your correspondence column.—I am, Sir, your faithfully,

F. HOULTON WRENCH.

217 Upperthorpe, Sheffield,
September 17, 1914.

[COPY.]

Corn Exchange Chambers,
Wharf Street, Sheffield,
August 6, 1914.

The Secretary,
Royal Institute, British Architects,
London.

PROPOSED NEW CHARTER.

DEAR SIR.—May I ask what effect the present international crisis will have on the proceedings of the Institute with regard to the New Charter?

As you know, my colleague, Mr. Wrench, and I represent many hundred Licentiates, who wish to protest against the Charter being granted in its present form, and in justice to them we should like to know the intentions of our governing body.

As an ex-Volunteer, it is probable that I may be called upon for service, and I understand that Mr. Wrench may be affected in the same manner.

Is it possible, therefore, for your Council to give an undertaking that the matter shall be so adjusted that time be guaranteed after the war for our appeal against the Charter?

May I also ask that your reply to this letter be framed in such a way that it may be published in the London papers and the architectural journals? It is very desirable that those who are supporting us know the reason for the suspension of action, and the publication of this letter and your reply thereto will save a great amount of correspondence.—Yours faithfully,

FRANCIS A. WINDER.

[COPY.]

Royal Institute of British Architects,
9 Conduit Street, Hanover Square,
London, W.,
August 10, 1914.

DEAR SIR,—In reply to your letter of the 6th inst., you may take it for granted that the Council of the Institute will not be occupied with the consideration of the New Charter, or take any steps in connection with it, at the present time.—Yours faithfully,

ERNEST NEWTON, President.

Francis Winder.

Re Architects' Volunteer Training Corps.

SIR,—The Architects' Volunteer Training Corps, which is now being recruited at the Architectural Association, 18 Tufton Street, S.W., is open to all architects, surveyors, and members of kindred professions, businesses and trades.

It is proposed to make it a training centre from which men will join the Regular Forces as they are able, in the meantime becoming proficient in drill and musketry. While in the first place the corps is intended for men who cannot at present join the Army, all who have applied for Commissions or are wanting to enlist in corps, at present not recruiting, will be most welcome.

A meeting will be held at 18 Tufton Street on Tuesday next at 5.30 p.m., when the organisation and scope of the corps will be explained in detail, but at present we want all who can do so to enroll at once.—Yours faithfully,

ALAN POTTER,
Hon. Sec A.A. War Service Bureau.

September 23, 1914.

National Relief Fund. Assistance for the Dependents of Men on Active Service.

SIR,—The Committee of the National Relief Fund is extremely anxious that no delay whatever should occur in the giving of such assistance as may be needed by the dependents of men at the Front. As much misconception exists I should be very grateful if you would publish the following instructions:—

Those needing help should apply to the local representative of the Soldiers' and Sailors' Families' Association, or, if the address is not known, they should apply to the Mayor or Chairman of the Urban Council or Chairman of the County Council as the case may be, who will either himself give them the necessary help or refer them to the nearest branch of the Association.

General inquiries should be addressed to the Head Office of the Soldiers' and Sailors' Families' Association, 23 Queen Anne's Gate, London, S.W.—Yours faithfully,

WEDGWOOD BENN,
Chairman Executive Committee.

3 Queen Anne's Gate, Westminster, London, S.W.,
September 17, 1914.

Moratorium and Rents.

SIR,—There appears to be confusion in the minds of many people with regard to the Moratorium, the Courts (Emergency Powers) Act., &c., and their effect upon rents and rates.

The Land Union is in communication with the Treasury on the subject, and I shall be only too pleased to help those interested who are in doubt or difficulty if they will communicate with me here.—Yours, &c.,

C. H. KENDERDINE, Secretary.

The Land Union, St. Stephen's House, Westminster,
London, S.W.,
September 17, 1914.

The Cost of Building.

SIR,—In the report of the proceedings at the last Bristol Council meeting in reference to the housing scheme, statements were made with regard to the increased cost of building owing to the war. These statements, being misleading, seem to call for some comments, not only in order that the housing scheme may be considered without bias, but also that persons contemplating building should not be deterred by a mere bogey.

The statement was made that timber had advanced 40 per cent. In the *Builder* there is published weekly a list of current prices of building materials. The prices quoted for timber last week show an advance of 15 per cent. to 20 per cent. on the prices of two months ago. Inquiries from local merchants give quotations from 20 per cent. to 25 per cent.

It was also stated that the increased cost of each house (the houses being previously estimated from £175 to £218) would be £20. Now the value of all woodwork in such a house is about £45. This represents approximately £25 for materials and £20 for labour. An increase in cost for each house of £20 thus represents an advance of 80 per cent. in the cost of the timber.

Speaking generally, a comparison of the prices to which I have referred, checked by experience of the quantities of timber, &c., required in ordinary work, shows that the total increase in cost would not exceed at the most 5 per cent., and this has been quoted lately in the technical papers as a safe basis for calculations.

The question arises, is it at all probable that after the war prices will fall to less than 5 per cent. above pre-war prices? Timber may go down, but other materials will doubtless go up. There will be a boom in trade, and a stronger demand than ever for improved houses, schools, and other public buildings, which will involve an increase in the general cost of building. So that anyone who defers building operations, which must be carried out sooner or later, may find, when too late, the unwisdom of delay.

I cannot claim to speak as an expert on the financial aspect of the housing scheme, but as the Government is prepared to lend money to municipalities at the same rate at which it borrows, there would appear to be nothing gained by delay in this direction.

My object in writing is to give some reliable figures as to the present cost of building.—Yours truly,

Bristol. J. H. LA TROBE.

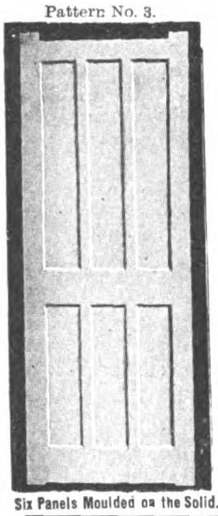
The Supply of Timber and the Price of It.

SIR,—Your correspondent's letter in last week's issue is interesting and gives information of value, but I cannot agree with him in the final statement in his postscript, the demand for timber will not be reduced, but much increased. The Government are already greatly increased buyers, and I know that within a few weeks the demand for timber will be largely in excess of this period of the year. A slight increase of cost will not be serious. A 10 or 15 per cent. rise, which seems to be the expected increase, will not seriously affect operations.—Yours faithfully,

September 21, 1914. A MAN OF KENT.

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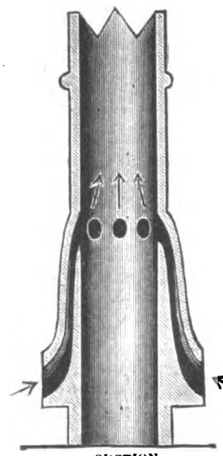
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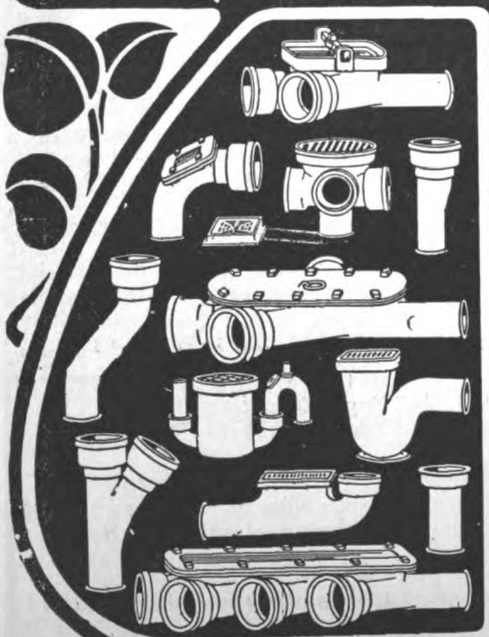
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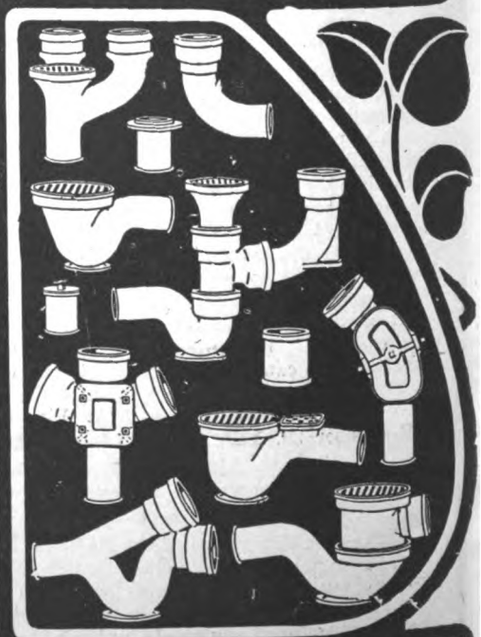
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THE ARCHITECT

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THE MAKING OF A GARDEN.*

The making of a garden implies something more than the mere arrangement of certain geometrical forms on a plan and labelling them with descriptive titles "grass," "paved walk," "pleached alley," "yew hedge," "herbaceous border," "rose-garden," and so on. Nor does the beauty of a garden depend upon the prettiness or symmetrical regularity of pattern which its plan shows on paper. Even more than in designing a building, the maker of a garden-plan should beware of what is now rather the misleading tendency of present-day design, following on the example of the productions of the Parisian Ecole des Beaux-Arts, to regard planning as an exercise in symmetrical pattern-making rather than an arrangement of parts of a building with a view to the maximum of convenience and beauty.

It should be remembered that a garden is not primarily intended to be viewed from an aeroplane, or even from the attic windows of a house to which it is attached, so that the full intention of a pretty pattern in plan is but rarely recognised. In fact, it may be taken as a cardinal first principle of garden planning that the bird's-eye view, though occasionally interesting, should be generally avoided, since one soon wearies of seeing too much and of seeing it in an imperfect and indistinct manner. A garden is to be seen and enjoyed from its own levels or terraces, not from a height sufficiently far above it to embrace the whole in a single *coup-d'œil*.

Although pattern-making should be eschewed, it does not follow that simplicity and regularity of treatment, resulting in what is popularly known as the formal garden, should be avoided. The garden, which is in almost every case an adjunct to a house, necessarily more or less formal and straight-lined in shape, may very well be formal also in its lay-out, and, indeed, if it is to show the characteristics of simplicity and regularity, must adopt straight lines and rectangular, or at least geometrical, spaces to a very considerable extent. Therefore, in avoiding elaborate pattern-making we do not rule out of court the formal garden.

Simplicity of treatment connotes harmony with existing conditions. Planting which is of so foreign and imported a nature that it appears a stranger upon the hillside rather than a product of its own soil, and a perversion of natural features to suit a mathematical disposition of terraces and parterres, are opposed to that simplicity and directness of treatment which, if properly applied, will make the garden a part and an epitome of the beauties of its own countryside.

Inasmuch as the garden is, as we have said, to be seen and enjoyed from its own levels, it follows that the most pleasing method to adopt in its planning is the process of dividing the whole area of garden into many gardens, each part having an organic relation with every other part, and all together forming one harmonised scheme. A formal garden enlarged to extravagant dimensions has a barren and hard effect which defeats its own object. On the other hand, an informal scheme is aimless and wearisome unless the site is particularly endowed by Nature and is pleasantly broken up by majestic trees and other natural features. The majority of plants and flowers require a comparatively close range of vision for full appreciation, and blooms set in an enclosed garden or bordering a line of wall or hedge will have a far greater effect than if they were merely units in a wide and extended scheme. In the making of a garden, therefore, it is advisable to subdivide it into moderate-sized enclosed spaces, each of which will provide its own picture, and by variation of their treatment afford refreshing relief, change, and piquancy of impression.

In advising the division of the garden, it is not suggested that the perspective of distance does not provide one of the most delightful pleasures of the eye when it is skilfully preserved. But distance, unless it is the wide survey of many miles from a respectable height, requires the help of gradation. A long garden, giving on to a distant walk or avenue which leads the eye to some landmark or to the horizon, is a most dignified and always a pleasing device and a special favourite with that master of the grand manner in garden-planning, Le Nôtre. Such a treatment is much improved if its length is graduated by recurring trees and other features, or its perspective helped by a lofty wall, hedge, or bank of trees, which, being above the eye, carries an upper line to meet the converging boundaries of walk and border. And in a sub-divided garden the effect of perspective is attained better by straight and parallel lines of path and hedge rather than by sinuosity of beds and borders.

Another very vital principle to be remembered in this country of ours, with its many varied samples of weather, is that a garden, to be enjoyed for longer than a few short periods, must provide for possibilities of use under varied conditions. There are days, or at least hours, when shade is the dominant need, then we can enjoy the pleached alley and the pergola. But after a thunderstorm, or even a summer shower, these shady walks lose their attraction: then we need the paved path—whether "crazy" or not is another question—and the flagged terrace, and even the summer-house and gazebo become desirable features.

Shelter and privacy are also as essential to the grateful flourishing of many things planted in the garden as to the full use and enjoyment by its possessors, but on the other hand one must beware of so much subdivision of a garden by hedges or walls, so much introduction of pergolas and alleys, that too much shade is produced and the full growth and development of flowers and plants stunted for lack of sufficient sunshine. For it must be ever remembered that a garden is not only a place in which to walk and sit, but a place in which to grow things.

In the making of a garden it must not be forgotten that it should be not merely an adjunct to a house, but should equally with it form a component of the home. Therefore the mutual relationship of house and garden is of high importance. There are two aspects of view in this: first, the garden as seen from the house; and second, the house as approached from the garden. Both are of great importance from an æsthetic point of view,

* *Gardens in the Making.* By Walter H. Godfrey. With illustrative designs by the Author and Edmund L. Wratten. (London: B. T. Batsford, Ltd. 5s. net.)

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although when thinking of gardens, the former is apt to press the greater claim to consideration. The two-fold problem presents itself in many different ways, being easier when both house and garden are to be newly planned as parts of an organic whole, and more difficult when either building or grounds is already in existence or when both are to be improved and co-ordinated. If the architect has a free hand from the start and the site is a new one, he can give due thought to the garden scheme in settling the disposition of the house, the position of its rooms, and the precise aspect of its windows. He can arrange the general shape of the house and its out-buildings with a view to affording a background the scale of which will suit the garden and make both house and garden inter-related parts, as they should be, of a home.

The principles as well as the details of garden-making are well set forth in Mr. Walter H. Godfrey's new book on "Gardens in the Making," recently published by B. T. Batsford, Ltd., which we can strongly recommend to the perusal of those young architects who desire to learn that now necessary part of their profession, the making of a garden.

NOTES AND COMMENTS.

Already discussions are arising and opinions being aired as to whether the cathedral of Rheims can be repaired or restored. Of course, all such talk is very much in the dark. We have as yet no accurate or full description by qualified observers as to the amount of damage actually done. War correspondents of newspapers are not usually the class of men who can write a "specification of works required to be done," nor if they were, would they have time at the present moment to make the necessary critical and expert investigation. The city of Rheims is still too close to the fighting line for thorough inspection, or even temporary support, to be at present possible for the cathedral. But there is no question that it can be either repaired, restored, or rebuilt.

The photographic views which have appeared in the daily Press indicate that very serious damage has, in parts at least, been inflicted on the masonry, but these no doubt have been taken rather from the press photographer's view of heightening the horror than for critical discrimination between vital and less important injury. From the description given by M. Thibault Sisson in the *Temps* we gather that in his opinion the mischief is not irreparable. He says that to judge it was necessary to ascend to the towers, and there he saw the bells completely melted, the roof, which was covered with lead, has entirely disappeared, and the magnificent flèche erected at the crossing of the transepts and apse has vanished. The arches are still standing and the nave is untouched by the fire. The writer thinks, however, that the autumn rains and frost will play havoc with the stones, and firm measures must be taken at once to strengthen the walls.

What promised to be a costly litigation on the question of what rights of access Chester people have to the old Rows has been avoided. It appears that Councillor H. F. Brown, the ex-Sheriff, in the course of enlargement of premises in Eastgate Street Row took away steps leading to the Row, contending that the public had no right to them, and he further enclosed stalls, in order that the question of the rights of the public might be settled. After many discussions the Council decided to apply to the High Court for an injunction. A settlement has now been reached to the effect that Mr. Brown will give a strip of land in the street to the Corporation, leave open for public access a new stall, reserving the right to replace the steps, remove the posts and rails placed round several stalls, and give £50 to the Chester Royal Infirmary or any other object.

The usual formal inquiry prescribed by the Town Planning Act has been held at Manchester concerning the City Council's application to the Local Government Board for authority to prepare a town-planning scheme for an area on the southern side of Manchester. The scheme deals with unbuilt-on land, wholly within the city boundary, and includes Rusholme, Levenshulme, Gorton, Chorlton-cum-Hardy, Withington, and Didsbury. The Deputy Town Clerk (Mr. P. M. Heath) said this scheme was the fourth which Manchester had put forward. As to the other three, the Corporation had already got permission to prepare them. If authority were given in this case the Corporation would have made itself responsible for preparing schemes comprising 8,793 acres, out of a total acreage of 21,691 for the city. The area of this scheme was 5,290 acres, and was wholly situated in the city, on the southern side. All the land was in course of development or likely to be used for building purposes. It was flat, and its general character made it suitable for building purposes. It was well provided with main roads and streets of a secondary character. It was supplied with water, gas, electricity, and tramways by the Manchester Corporation. The land formed part of one of the most desirable residential districts in the city. It was accessible to the centre of the city by trams and railways, and also to the rural districts of Cheshire, and in this way had natural advantages which would eventually result in the land being wholly developed as a residential area.

In the erection of new works at Detroit, U.S.A., for the Ford motor-car manufacture an interesting and thorough scheme of ventilation has been installed. The works is a six-storey building of reinforced concrete, and the system centres upon the columns or pillars which go to make the structure. These are of large diameter and hollow, and are used as ducts through which the purified air, cooled in summer and warmed in winter, is forced downward from fans on the roof. The magnitude of the service required from the system may be gathered from the size of the building, which has nearly 1,000,000 square feet of floor area and encloses over 11,000,000 cubic feet of space, and from the fact that the wall area has 65 per cent. of window, which means a considerable wastage of heat in the winter months. The plant is divided up into eight units, located in eight pent-houses on the roof. In each pent-house is a 6 ft. by 3 ft. centrifugal fan, an air heater (or cooler), with 10,000 square feet of surface, and an air-washing chamber 11 ft. high by 12 ft. wide and 10 ft. long, fitted with water sprays and baffle plates. The air is forced at a pressure of 2 in. of water down the duct in the centre of the concrete columns. In order that the distribution may be equal on all six floors the area of the duct must be less at the bottom of the building than at the top, and this fits in very well with structural necessities, as the column walls have naturally to be stronger at the lower levels. The apertures which admit the fresh air into the rooms are located in the sides of the pillars at about 8 ft. from the floor level, and are in every case directed towards an outside wall, so as to break up the stream of cold air which, in winter, hovers around the windows, and ensure an equable temperature throughout the rooms. Normally the air required for circulation is drawn in by the fans from the outer atmosphere, but means have also been provided whereby, when desirable, the previously-warmed air can be drawn in again after its passage through the shops, and re-circulated after washing and re-heating, and exhaust ducts for this purpose have been fitted in the ceilings of the various rooms above the craneways. The hot water used for heating the air is obtained from the jackets of the large gas engines which drive the works.

Mr. H. O. Tarbolton writes to the *Scotsman* calling attention to the fact—of which, by the way, all architects ought to be aware by now—that in the building trades

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ENGLISH COTTAGES—AT KENILWORTH.

there is a long list of articles in every-day use which have, in part or wholly, been manufactured in Germany, but which our home markets could well have supplied. The difficulty is to cope with the strenuous endeavours that are now being made by German manufacturers and agents to retain this business.

A number of manufacturing firms, bearing names that clearly indicate Teutonic origin, are circularising architects and others drawing attention to the fact that their stock is held by British shareholders and that British labour is employed. A list of the shareholders of such firms should be carefully scrutinised before placing orders in their hands. Others are changing their names or have already adopted trade titles of true British flavour. There is here an opportunity for the Architects' War Committee to do something useful for the profession. Let them investigate the bona fides of all companies or other traders supplying building material and give us their list of those we may employ without providing profits for alien shareholders. It would be a waste of effort for each individual architect to do this for himself, but the committee, by division of labour, could easily prepare such a list and do something to justify their existence.

It has been decided to continue the two courses of lectures given by Mr. Banister Fletcher, F.R.I.B.A., at the museums, and the increasing number of people interested in the architectural treasures, both of this country and on the Continent of Europe, will thus have an opportunity of studying the enduring results of the artistic building activities of Ancient and Mediæval times.

The lectures on Ancient Architecture are delivered in the lecture-room of the British Museum on Thursdays, 4.30 P.M., beginning October 1, and thus those attending the lectures have the great advantage of visiting directly afterwards the wonderful productions of the Egyptians, Greeks, and Romans, which the lecturer explains and describes.

The lectures on Gothic Architecture in Europe are in the lecture theatre of the Victoria and Albert Museum on Mondays, 5 P.M., beginning October 5, and this Museum is rich in exhibits belonging to this period.

After the description of a typical Gothic Cathedral, with all the evolution of arches, buttresses, and pinnacles, four lectures will be devoted to the wonderful Gothic Cathedrals of France and nine lectures to our own English Cathedrals, Abbeys, and Colleges, with special lectures on Westminster Abbey and the Tower of London.

The first lecture of both courses is free without ticket. Full particulars may be obtained from the Hon. Secretary, 10 Woburn Square, W.C.

WAR ITEMS.

THE following statement from the Board of Trade Commercial Intelligence Department on fire-proof bricks, retorts, crucibles, &c., shows for a recent year the value of bricks and other fire-proof products of clay and clayey substances exported from Germany and Austria-Hungary:—

Exports from Germany (1912).	£
Fire-proof bricks of all kinds (Chamotte, Dinas, bauxite, &c.):	
Rectangular, each weighing net, less than 5 kilogs.	322,900
Rectangular, each weighing net, 5 kilogs. or more; other than rectangular, without regard to weight	261,200
Other fire-proof products of clay and clayey substances:	
Retorts	26,500
Crucibles, muffles, capsules, tubes, cylinders, and other hollowed articles, other than retorts; slabs and other products, except bricks; crucibles of magnesia; cement, or soapstone	33,100
Total	£643,700

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Exports from Austria-Hungary (1913).

	£
Fire-proof bricks:	
(*a*) Dinas, magnesite, bauxite, and graphite bricks:	
weighing up to 5 kilogs. each ...	149,300
weighing over 5 kilogs. each ...	74,500
(*b*) Other:	
weighing up to 10 kilogs. each ...	15,800
weighing over 10 kilogs. each ...	7,000
Retorts, crucibles, muffles, capsules, nozzles, brewers' stirring-rods and similar articles for technical purposes of fire-proof material (other than graphite) or common stoneware	1,700
Total	£248,300

Similar particulars for the United Kingdom are not available.

The exports of fire-proof bricks, &c., not being separately recorded in the trade returns of the United Kingdom, no comparison between the exports of the three countries is possible. It is known, however, that there is a fairly large production of such goods in this country, and it would appear that the maximum amount of German and Austrian trade in fire-proof bricks, retorts, crucibles, &c., which might be diverted to British manufacturers under present circumstances is as follows:—

	In the United Kingdom Market.	In Colonial and Neutral Markets.
(*a*) *German trade* (1912):—		
Fire-proof bricks of all kinds;	£	£
Rectangular, each weighing less than 5 kilogs. ...	4,500	286,950
Rectangular, each weighing 5 kilogs. or more; also bricks other than rectangular ...	4,400	231,650
Other fire-proof products of clay, &c.:		
Retorts	2,700	22,900
Crucibles, muffles, capsules, tubes, cylinders, &c. ...	2,200	21,850
(*b*) *Austro-Hungarian Trade* (1913):—		
Fire-proof bricks:		
(*a*) Dinas, magnesite, bauxite, and graphite bricks—		
weighing up to 5 kilogs. each	15,400	67,350
weighing over 5 kilogs. each	1,100	34,850
(*b*) Other—		
weighing up to 10 kilogs. each	—	11,100
weighing over 10 kilogs. each	—	3,550
Retorts, crucibles, muffles, capsules, nozzles, &c.	26	220
	£30,320	£683,420

making a grand total of £713,740.

The following statement from the Board of Trade Commercial Intelligence Department on building and furniture fittings, including locksmiths' wares, shows the value of building and furniture fittings, including locksmiths' wares, exported from Germany and Austria-Hungary to all destinations in a recent year:—

Exported from Germany (1912):—	£
Building and furniture fittings, door-handles, door-chains, ventilators, castors for furniture and chairs, &c., of malleable iron	539,100
Locks, not for fire-arms, and keys ...	736,700
Total	1,275,800

Exported from Austria-Hungary (1913):—	£
Fastenings (butt hinges, bolts, hinges for doors and windows, knobs and parts of hinges, door window furniture, and carriage mountings); spurmakers' wares; all the foregoing, excepting art metal work, combined or not with base metals	11,800
Locks, ordinary, except safety locks and art metal-work locks, weighing more than 300 grammes	18,700
Other locks; parts of locks; keys	2,700
Total	£33,200

Similar particulars for the United Kingdom cannot be given, as this class of goods is not separately recorded in our export returns.

It appears that the aggregate value of the German and Austro-Hungarian trade in these goods which under present circumstances might be diverted to British manufacturers may be summed up as follows:—

(*a*) *In the United Kingdom Market*:—	
German trade (1912)	£76,250
Austro-Hungarian trade (1913) ...	—
	£76,250
(*b*) *In Colonial and Neutral Markets*:—	
German trade (1912)... ...	£1,037,300
Austro-Hungarian trade (1913)	30,560
	£1,067,860

making a grand total of £1,144,110.

The following information, which has been extracted from the issue of the *London Chamber of Commerce Journal*, dated August 1913, may be of interest to British manufacturers:—

"A British firm of lock manufacturers were asked to submit samples to a Canadian house; they sent samples of heavy 2 in., 2½ in., and 3 in. japanned and galvanised padlocks of the ordinary pattern and the rim locks which sell retail with brass handles in England at 2*s.* 9*d.*, and the common variety of night latch. These samples were immediately placed on the firm's bargain counter. If this British firm had ascertained what was used throughout the Dominion they would have found scarcely anything but the flat-key type of padlock in use and a big preference for mortice locks, and that the type of night latch in favour was the 'Yale'; and if they could supply such would have acquired a client worth having."

The following information extracted from H.M. Trade Commissioner's Report for the period 1906-1910 may still be of interest:—

"It is reported in trade circles that in various lines of builders' hardware British trade has improved at the expense of Germany. In spite of the small import of the year 1910 the general opinion is that British manufacturers have improved their methods in dealing with the Canadian market. The prices and quality are, generally speaking, suited for Canadian houses. Complaint is still heard regarding British catalogues, which frequently contain descriptions, illustrations, and quotations of numerous articles entirely unsuited for North American buyers. In saying this, it must be admitted that in many individual instances British catalogues are admirably compiled, and show an excellent thoroughness and finish of workmanship. But, doubtless, many British houses are scarcely aware of the important part played by catalogues in the trade, and how important it is to place in them copious and exact information as a basis for purchasers' orders. It would perhaps repay British firms who desire to increase their business here to print a catalogue for special use in Canada. A buyer for one of the largest hardware houses here suggested that a close study of the goods most used in the Dominion should be made, based on a visit to the whole-

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sale and retail stores in Canada, and a catalogue printed largely from the information gleaned. The purchase of samples would naturally be of assistance."

The Architects' Volunteer Training Corps is being formed at the Architectural Association in order to train men at present prevented from joining the Regular Forces. The first aim is to recruit for the Army, and any men waiting to enlist in the Royal Engineers or other corps which are now closed, or who are waiting for a commission, will be welcome. Secondly, it is hoped that all who are prevented from enlisting under existing regulations will join and train and make themselves fit and ready to be called on in time of need.

The Corps has had four training grounds placed at its disposal, which include a 25-yard miniature range under cover, a 150-yard open miniature range, and revolver range. Drills and musketry training are in progress every day of the week, and a week-end camp is being started at once. As it is proposed to organise the corps so as to provide Pioneer Companies to be attached to Infantry, lectures and classes will be arranged at 18 Tufton Street on the following subjects: 1, Field engineering; 2, field hygiene; 3, animal management; 4, field sketching; 5, elementary tactics.

It is particularly desired that men should come forward to attend these lectures with a view to becoming instructors of recruits.

The most important work at present is to get a large number of recruits as quickly as possible, as the committee's plans cannot be carried out properly until they have large support. The corps is open to all architects and surveyors, and to the men of all kindred professions, businesses, and trades and their friends.

There is a small entrance fee of 5*s*., and a subscription of 2*s*. a month. All inquiries should be addressed to the A.A. War Service Bureau, 18 Tufton Street, Westminster, S.W.

COMPETITION NEWS.

Coventry.—The Education Committee have decided to obtain competitive plans for the erection of a new elementary school in Narrow Lane, and the School Sites Sub-Committee have been authorised to prepare and submit draft conditions to architects.

Coventry.—At the meeting of the City Council on Tuesday, September 29, on the recommendation of the Education Committee, the Council approved of the plans submitted for the proposed Municipal Technical Institute, and authorised an application to the Local Government Board for sanction to a loan of £25,005 in respect to the same. The successful architect is Mr. A. W. Hoare, Mountford Chambers, Coventry, whose plans were accepted in open competition. It was further agreed that Mr. Hoare be appointed architect to the works while in course of construction at a salary of £1,000.

Liverpool.—The Parks and Gardens Committee of the Corporation have received and adopted, subject to the approval of the City Council, the report of Mr. Henry Hartley, F.R.I.B.A., who acted as assessor in the competition for laying out as a public park and recreation grounds the Walton Hall Estate. The first premium of 100 guineas has been awarded to Mr. H. Charlton Bradshaw, who won the Prix de Rome last October, and Mr. George B. Rowlands. The estimate of cost is about £40,000. The second premium (50 guineas) was awarded to Messrs. Harry Pierce, F.R.H.S., James B. Walker, F.R.H.S., and W. L. Dolman, Lic. R.I.B.A., of Windermere; and the third (25 guineas) to Messrs. E. Prentice Mawson and J. Radcliffe Mawson, of Lancaster. Twenty-two competitive designs were submitted, some or all of which will be on exhibition.

Northampton.—Members and Licentiates of the Royal Institute of British Architects must not, by order of the Council, take part in the competition for workmen's dwellings, Hollowell, arranged by the Northampton Waterworks Committee, because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions.

ILLUSTRATIONS.

MAESRUDDUD, MON.

This is an addition to a house begun about fourteen years ago, and therefore presents a past rather than a present manner of the architect (Mr. Edward P. Warren, F.S.A., F.R.I.B.A.). It is faced with local sandstone, very hard and from grey to iron-rust in colour. The roofs are covered with green Buttermere slates. The house stands high, overlooking fine Monmouthshire scenery. Lodges, stables, terraces, &c., have recently been carried out there from Mr. Edward Warren's designs.

The contractors are Messrs. Collins & Godfrey, of Tewkesbury.

The heating installation by Messrs. C. P. Kinnell & Co., Ltd., of 65 Southwark Street, S.E.

Casements and metal work by Messrs. T. Elsley, Ltd., 28 Great Titchfield Street, W.; Mr. J. H. Pye, Moreton-in-Marsh, Glos.; Messrs. Hobbs & Son, 24 Robert Mews, Hampstead Road, N.W.; and Messrs. F. Clubb & Son, Park Works, Sudbury, Suffolk.

SKETCHES IN BELGIUM.

These faint notes in line come of strong impressions made by the subjects during a hasty tour with other archæologists, and everyone who has joined such a group knows how few are the opportunities for anything like real work. The tour was made in 1892, when *The Architect* was publishing a very welcome series of the masterly delineations of Samuel Prout, whose works, though entirely of freehand, are as fully and carefully elaborated as any drawing could be, and convey a real impression of the subjects given. One of these shows the Hôtel de Ville at Louvain, with just a trace in the foreground of the cathedral church, which had been made subject to trespass by the erection of dwellings and shops. Though these intrusive erections mar the lower part of the church, their quiet, picturesque treatment almost suggests they were erected in partnership with the consecrated building, and for its protection. Very contrary is this to the state of things lately described by Mr. Asquith in the House of Commons, with which not only the man of art but all the world must agree. This church may probably be restored, but its living soul, like those slain in battle, has passed from the earth, never to be compensated for. Rather curiously (as one now feels) a troop of cavalry of impressive aspect passed between the church and the Hôtel de Ville at the time of the visit here mentioned.

It is to be devoutly hoped that the Church of Malines and its invaluable possessions of paintings and precious altars have escaped entire destruction, and that its sweet bells will, when peace returns, long continue to be joyous in the town. Also that the broad square, with its characteristic buildings, will remain for the benefit of future generations.

Again, of Brussels it should be noted the cathedral and the Hôtel de Ville, with the great square between them, dominate the city, and impress one with the living art which prevails on every side. It is surely unthinkable that a cruel enemy could destroy the elevating influences of such a city. What especially strikes an Englishman in these gifts of the past is the common and frequent use which the people at large make of the interiors of these churches. The soldier passes through with reverence in an interval of duty; the father and mother lead their children in a quiet time of market business, in sympathy with the impressive fabrics and their services, public and private. Again it may be said it is unthinkable that devilish destruction could be perpetrated towards such living art and souls' service.

COTTAGE AT BRENT TOR.

Brent Tor is a small village on the edge of Dartmoor. The house is intended for possible use for lodgings in the summer and hunting seasons, and the plan provides two sitting rooms with easy access from the kitchen, and each sitting room has its own verandah and garden entrance.

Materials: Local stone from the site in random courses, and roof of small Cornish slates. The architect is Mr. G. Berkeley Wills, A.R.I.B.A.

DESIGN FOR SMALL COUNTRY HOUSE.

This design was submitted by Mr. G. Berkeley Wills, A.R.I.B.A., in a recent competition for a house to cost £850 for a given site, which included the laying out of the garden of about two acres. The materials proposed were 11-inch walls covered with cement rough-cast, and roof of hand-made tiles.

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UP AND DOWN THE MEUSE.—V.

By A Sketcher.

The line of the Meuse from Maastricht to Venlo leads through a tract of broken ground of some height—for Holland—past orchards and low wood, between much flat pasture and acres of market garden. Venlo itself is uninteresting enough. The river glides sleepily past with some little craft upon it, and a group of irregularly built houses overhangs the water, with balconies where people take their breakfast on summer mornings. Within the town there is nothing to interest the traveller but a few Spanish gabled houses, duly inscribed in iron letters with their dates, 1593, 1624, and so forth; and over the door of St. Martin's Church are two quaint, coloured figures, apparently of wood, representing the old legend of the saint dividing his cloak with the beggar. Then there is a brick town-hall with round wings, of no special architectural merit, and this is all Venlo has to show. From thence to Bois-le-Duc one loses the river, which goes across country to join the stream of the Waalat Wondrichem, there to spread itself wide and wider, and separate into the network of waters upon which Rotterdam and Dordrecht are set down amidst their myriad shipping.

The land is much of it bog, covered with heather, but north of Boxtel, where the rail to Bois-le-Duc branches off from the main line, the pastures reappear, together with pleasant copse or plantations. The stately old capital of North Brabant is surrounded by its double line of fortifications and moat. Great windmills are set upon the green ramparts, and turn their lazy arms above the sluggish water, and a thick belt of trees encircles the town. At one side of the city the canal brings tall masts and gay-coloured barges and all the picturesque *roba* of the quays in among the houses. In the heart of the town a wide Place, surrounded by steep-roofed and somewhat stately buildings, gives ample room to as pretty a market scene as one can get anywhere. Fruit and flowers and vegetables, spreads of blue and grey and green crockery, stalls of gay stuffs and "old clothes," miscellaneous gatherings of old iron, booths where meat and fish are sold, and open stalls for live and dead poultry, surrounded by cackling coops, are presided over by comely dark-eyed women in quaint costume, wearing every variety of cap, mostly of the graceful Brabant shape, with full round crown and deep curtain or fall turned back in front, gold earrings and necklets, and gay kerchiefs over rich-coloured gowns. By-and-by we come upon the cathedral, once a gorgeous edifice of the early "flaming" Gothic—once a mass of crockets and carved gables and rich flying buttresses and fretted masonry. What were all the causes of this rapid decay it is difficult to say. Apparently the stone is of a soft kind which suffers especially from the action of damp winds; on the south side the ruin is certainly in part the result of the weather. Without desire to be severe, one may safely say that the new brick western towers are an unmitigated eyesore. The northern side is better, but the detail is tame and monotonous compared to the old work, so far as one can trace. But even as it stands the church is a remarkable pile. The spacious interior allows of wide double aisles, subdivided again at the north transept, where an elaborate chapel of the sacrament is placed. There is a great amount of surface decoration, the aisle walls are panelled, and the spandrels of the nave arches filled with tracery, and the triforium is screened with open work. Much fairly good modern picture-glass fills the light. The woodwork, pulpit, &c., is uncommonly fine in style and execution, the organ case one of the noblest we ever saw. It is built up to the vaulting of the ceiling in regular architectural construction, including in the design a central singing gallery. The style, which is of the later Renaissance, admits of spiral and fluted columns, and infinite richness of detail in detached figures, panels in relief, arabesques, scroll work, &c. The staining, a dark warm chesnut, has no colour or even gold, only the silvered pipes to throw up its juicy tones. Still more historically interesting is the old brass font, which, fiercely rubbed up and polished, is placed in the dark chamber under the south-west tower. The basin, supported by quaint figures of soldiers and men in gowns, is boldly squared out; the cover or canopy is of pure architectural design, with spires and buttresses and niches, within which are curious emblematical figures—an angel holding a cup stands under one arch, a soldier under another; at the top is a kind of tabernacle with the curtains drawn aside, revealing the figure of Christ seated in the act of benediction. This remarkable piece of metal work, Flemish in character, boldly and largely executed, is certainly one of the most striking examples of the brass work which is to be found about Holland and North Belgium.

Old Bois-le-Duc—Dutch, Hertogenbosch or simply 'sBosch—with its planted ramparts and gardens, appears like an oasis in the shadeless surrounding country; about it lingers an air of state and aristocratic quietude, more akin to the old court towns of Germany than the picturesque mercantile cities of Holland. There is sufficient activity to keep the place alive, good shops and substantial houses indicate prosperity, but yet a certain leisurely and dignified repose pervades the place. It is a kindly pleasant old town to abide in with contentment and leave with regret, and so we felt as we looked back upon its green ramparts and the peaceful windmills, standing like sleepy sentinels on the edge.

Unlimited level is the note in our itinerary against the country between the Boxtel junction and Dordrecht, a curious region, chiefly consisting of morass covered with heather. Then one enters literally upon the waters. Crossing the long iron bridge towards "Dort," and looking eastward, nothing is visible but a waste of cold, shining water and a dreary stretch of waving reeds and pale willows. Dordrecht itself is set down at a crossway of the arms of the outflowing Meuse. As you stand on the quay you have broad water to your right, full of shipping of every sort, up to craft of considerable tonnage; water to your left is flowing seawards; and straight in front of you water, which has glided down between its flowering reed beds from the harbours of busy Rotterdam, now spreads between the green levels, hardly broken by a tree, and takes on its milky surface the rosy hues of dawn and of evening. The little voyage up to Rotterdam and back is a charming *passe temps*, though uneventful until the striking quays, the cosmopolitan shipping, and tall houses of the town open out before you. Rotterdam itself is too much on the beaten track of tourists to find comment here, but at Dordrecht it is not so common to stop, and you may walk all about the place without meeting an English person; a state of things which has great advantages for a quiet traveller.

Yet the town is strikingly picturesque. The canals that intersect it are full of quaint shipping, and lined by irregular houses, gabled and flat-roofed, tiled and painted, with here and there a jutting storey, and farther on a sudden patch of greenery. Dark doorways and little flights of steps lurk underneath, and overhead the cranks for lifting merchandise from the boats project their gaunt arms. The lofty and somewhat gaunt block of the church, the *groote kerk*—where the splendid fifteenth century stall work and the beaten brasswork choir-screen tell of ancient ecclesiastical glories before the Protestants were given possession—comes well into vistas of canal-way, and the trees about it throw their branches over the reflecting water, that mimics all, houses and trees, buildings and boats, with bright precision.

Then there is wonderful charm about the wide arms of the river which seem to encircle the town in a silent enclosure of waters. In the morning the vegetable boats ply up and down, gay with their loaded freight, and the fishing boats pass towards Rotterdam; in the full day the great steamers come and go perpetually, and much business is done with merchant craft. Then comes a quieter time, broken by the occasional rush of a river steamer, or the fierce passage of the little pilot tugs that puff and push about all day and night, helping the slower craft. And after sunset, or while the rays yet linger warm above the rising white mists, slowly, slowly round a bend of the river between the green pastures, the fishing fleet glides into sight again, full sails set, white ghostly wings and rich brown and deep ochre: on they come, two and two, mysterious and silent in their swift passage, and pass down seawards. And then the river mists grow thicker, and drift in pursuit of the vanishing sails, and a rosy calm settles over all the smooth waters.

The *genre* painter will find a field of study amongst the people of Dordrecht, for there still lingers here much national costume and strong national types. The trinkets of the women, their necklets and breast ornaments, their spiral cap-pins and metal head-plates, their prodigious caps and short skirts and full-plaited gowns are in harmony with their thickset forms and full contours, and bright kindly faces; while among the men the scarlet jackets and blue jerseys and picturesque caps and gay kerchiefs of the fisher folk and sailors make variety upon the more sombre masculine apparel. Most places with the amount of brisk trade that beset the quays of Dordrecht would be a

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pandemonium of noise, but the Dutch are not a noisy people. You may look out of your window and become aware of ten or fifteen loiterers in knots of quiet talk or isolated meditation, whose presence you might ignore for all the noise they make; while half the number of vivacious Gauls or sociable Italians or persistent Germans would drive you frantic with jabber and swagger. Only under potent draughts of the liquor beloved by Mynheer von Dunck will the Dutchman burst into rare, uproarious manifestation. The pleasures of the wealthier classes in Dordrecht would seem to savour of the childlike, if one may take as an indication the mode in which they have laid out their suburb of country villas. On the edge of the town is a region which we cannot better entitle than as a "child's paradise"; for here are low houses surrounded by gardens, with each garden surrounded and intersected by tiny runlets of water, and each garden has its arbour, and the houses have their wooden summer-parlours built out and full of windows, where the good folk can sit and have their tea, and smoke and chat, and yet feel nicely independent, shut off from disturbance by little streams and waving trees. There is something irresistibly comic in the whole thing to English eyes; it is like a doll's colony realised. Walking along the main road, one has a bewildered feeling of being oneself some animated puppet out of one of H. C. Andersen's fairy stories.

But if simple in their pleasures, strong and persistent must be the purpose and industry of these inhabitants of the water-invaded lands. And not always can they control the enemy. If you take the steamer up the river as far as Gorinchem—a bright, picturesque town of wooden and brick houses intersected by canals, opposite which the Meuse, crossing down through Holland, unites with the Waal and bestows its name on the waters ere they fall seaward—you pass on your right a part of the dreary wastes of the Biebosch, the "drowned land," which one fearful inundation submerged, never to recover its fertility again. Miles of waving reeds, and acres of weary marsh, ranks of blue-grey willows, files of alders, and beds of osier stretch away to the horizon—a lone and dismal district, for which a solitary ruined tower on the river-bank seems to serve as melancholy signal of distress. Strangely, perhaps, nowhere does the fight of the people with the element that is at once their friend and their foe more appeal to one's imagination than here in sight of their defeat.

And now where the Meuse loses its identity among the confluent rivers, and where the strong salt sea-tides that move its ebb and flow witness that its course is all but ended, we bid adieu together to the reader and the river.

HOUSE DRAINAGE AND HOT-WATER SUPPLIES.

At the first sitting of the Section of Engineering and Architecture at the Royal Sanitary Institute Congress at Blackpool the following papers were taken together for discussion:—

I.—THE SANITATION OF THE COUNTRY HOUSE.

Abstract of paper by W. C. Tyndale, M.Inst.C.E. (Fellow).

The rural parts of Great Britain have witnessed very great changes as regards ownership of houses. The typical old county family, living in quiet dignity, satisfied with their old home, as it satisfied their ancestors, have in many places disappeared, and their mansions have been taken by more wealthy owners or occupants. Many of the lesser country houses have become occupied by persons who, formerly living in towns and suburbs, owing to recent increased facilities for locomotion have been enabled to dwell in more rural parts. All these in their train have brought with them modern ideas in various directions, including the latest sanitary improvements. It is not, however, these modernised houses that are the subject of our consideration. There still remain a large number of dwellings which are as they were in the beginning, abounding with all those conditions and arrangements which we now believe to be in more or less degree inimical to health. There are probably few here who could not, on the spur of the moment, give corroborative evidence of this statement.

It is difficult to conceive not only how the occupants of such houses could have put up with such a state of affairs, but also why no evil was suspected. I know that some persons associate such odours and atmospheres with comfortable old houses, and would almost seem to miss them when not found in reorganised dwellings; at any rate, these odours are frequently looked upon as of no account in association with the amenities of fine old dwellings and of country life generally. How immunity from illness has been experienced in conditions as above described it is difficult to understand. It may be that the open-air life of the inhabitants has had a great deal to do with it; perhaps also the disposition of the various parts of the building, and the opportunities for ventilation, not to say draughts, has had something to say to it. Unlike town houses, whose stories are piled one upon another, where the one and only staircase forms a funnel up the centre of the house, with basement air filling it, and every water-closet bordering on it, with no outlet at the top, and all the vitiated air laid on to the bedrooms, the several parts of a country house are more widely disposed; they have more outside walls, there are usually two or more staircases, the stories are only two or at the most three in number; kitchens, sculleries, &c., are well away from the occupation, and bedrooms, passages are wide and generally draughty; water-closets are more widely separated, and there is not that concentration of vitiated air which occurs in town houses. All these conditions, no doubt, are in favour of the country house. Nevertheless, none of these mitigating advantages affords any sufficient excuse for neglect of common sanitary precautions or any sufficient reason for running risks to health; and it is very desirable that the spread of sanitary knowledge should permeate and ramify into all parts of the country, and that those who may enjoy Nature's bountiful gift of fresh air to the fullest extent should learn that they owe it to others as well as to themselves to make their houses healthy.

The country house usually affords special facilities, structurally, for the amelioration of its state as a habitation which do not present themselves in the case of a town house. The disposition of the several parts of the building, as previously mentioned, presents opportunities for the architect to make favourable alterations in connection with the position of water-closet, slop-sink, and housemaid's sink apartments, which are often impossible in a town house, satisfying amenities by rendering the approach less obtrusive, and meeting sanitary requirements by providing ventilated lobbies, placing sinks in well-lighted and more spacious positions, insulating the air of the kitchen, etc. In this connection I would say that I notice with regret that the custom of providing garden water-closets for the male sex seems to be going out of fashion. The lower order of animals remind us of what was the view of primitive man in common with themselves, viz., that the lair should not be fouled; and though civilisation, and congestion of population, has doubtless ordained that certain functions of the body shall be performed within the dwelling, there seems to be no reason where opportunities are afforded, that such places of easement as closets should not be situated apart from the interior of a dwelling.

The sanitary fittings of a country house should not differ as a whole in their various kinds from those of a town house, except, perhaps, that as water is a less expensive commodity, the water-closets might be more frequently fitted with the "valve" description of apparatus. The use of these is now prohibited throughout the area supplied by the London Water Board, as it is supposed that they tend to the waste of water. Whether a "valve" closet entails the use of more water than a so-called "hopper" closet has not been actually determined; but, however that may be, water boards do not trouble the countryman, and I hold the view that where "valve" closets may be used they are preferable to the nasty little "hopper" closet; at any rate, if "valve" closets should be considered to be too expensive, I consider that "siphonic" closets are better than the common "hopper." The holding in the basin of a volume of water of large area stamps the "valve" and the "siphonic" apparatus as by far the more cleanly kinds, while they are distinctly of less offensive internal appearance than the hopper.

Perhaps I have somewhat digressed from the essence of the subject under consideration, and, therefore, in returning to the main branch I would pass to the point in connection with which the sanitation of the country house requires the greatest consideration. That point is the disposal of sewage. The rough-and-ready and easy way of getting sewage out of sight and out of mind available to our forefathers, viz., by discharging it into a ditch, a stream, or a river, is no longer available, and, in consequence, the operation has become, in most cases, anything

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but easy, not to say extremely difficult. Given a house situated on an elevated site with ample acreage around, and subsoil of a porous nature, the problem may be still fairly easily solved, either by adopting surface disposal, after straining or liquefying, or by soakage from sub-irrigation drains, or by means of a soak well, the latter only being admissible if water-supply considerations do not interfere. But cases where all the desired conditions exist are not often met with, and it may be more frequently found that the site is flat, and then begin the real difficulties. In such a case the sewage has to be lifted. The engineer will naturally look in the first instance for natural local power in the form of a stream of such sufficient volume and head as to be capable of being harnessed to the required work, either by wheel or turbine, or by air lift; possibly electric current may be available from the lighting installation; but, failing all these, a gas or oil engine must be used, and here follows another difficulty. A man must be found to attend to such engine. Sometimes an intelligent gardener can be trained to do what is necessary, but, except in large places, this is seldom the case.

I should not omit to mention the fact that immediately it becomes necessary to raise the sewage every effort should be made to eliminate all liquid which it may be possible to deal with separately. All rainfall should be rigidly excluded from the sewage drains. Stable drainage should, if possible, be treated separately, and even bath-water may sometimes be dealt with by sub-irrigation under the garden. I know of many cases where this has been done. It will not be out of place here to mention laundry water, which is frequently the bane of the sewage engineer. This cannot easily be treated separately, but its effect on sewage purification, owing to its large volume, its intermittency, and its nature, requires to be specially considered. The best way of dealing with this is to cause it to discharge into a separate tank, where its solids are precipitated, and where the supernatant water may be let out through a regulated valve, which will, in a great measure, counteract the intermittency of the flow. Consideration may also be given to the provision of earth closets towards minimising the sewage volume. The rural conditions will render the adoption of these very suitable arrangements for outdoor positions, and easy of maintenance. The necessary earth is always at hand, as are also opportunities for the disposal of the contents of the pail. The only difficulty at all in connection with the latter operation is the presence of paper; but this objection disappears if a method is adopted which is practised in connection with my own house, viz., to burn the paper before the earth is applied. I have put up a notice, and I find that users of the closet fall in with the suggestion, and that the disposal question is rendered quite easy. In the case of a self-acting apparatus this would not be so. The sewage disposal may also be facilitated in some measure by the elimination, as far as possible, of the greases which come from the house, and for this purpose it is well to introduce fat traps instead of ordinary gullies at those points of sink-waste discharge where fat would pass into the drains.

Again, take a case where not only is the site flat, but the soil is heavy clay. These conditions at once necessitate the introduction of artificial bacteriological means of purification. It would be almost impossible to describe, certainly in the time allotted to us, the various combinations of arrangements and devices which have been devised to purify domestic sewage on these principles. Suffice it to say that the general principles on which they are all based are the well-known ones of liquefaction and clarifying of the sewage as a first stage, and subsequently of dealing with it in oxidising bacteria beds or on sprinkling filters. Of all the arrangements devised for effecting the first stage of the process, the Dibdin "slate-bed" is probably the best, as it most nearly conforms with the processes of Nature and obviates bad odours. It is not, however, as popular as it might be, from the fact that it works on the intermittent contact principle, involving manual labour or auomatic contrivances to effect the alternation required. A much more popular device is the well-known septic tank, which admits of continuous working, and to some extent liquefies the solids of the sewage and produces a more or less clarified effluent. Its action, however, is attended with the formation of sludge and the evolution of foul odours. These disadvantages have been thoroughly recognised, and the place of the septic tank is frequently taken, with great advantage, by the semi-septic tank or "pot," reducing the sludge to a minimum, minimising the odour, and only requiring the removal of scum at frequent intervals, an operation which may be performed by a gardener or a handy man about the premises.

Passing on to the second stage, of purifying the sewage by oxidation, it may be said that this generally consists in (*a*) applying the sewage in volume to beds filled with furnace ash, coke, stones, or other small indestructible material on the contact principle, or (*b*) by spraying the liquid over beds formed of material as previously mentioned by means of sprinkling arms, weeping troughs, or splashing devices. All or any of these will, if properly designed and of right dimensions, effect the oxidation of the sewage. The question of which form of installation shall be adopted is one which can only be determined by the sanitary engineer after taking into consideration all the necessities and circumstances of the case. It is a fact that, as regards the disposal of sewage, no one case is exactly like another, and that in every instance some variations and alterations must be made to ensure success. It is remarkable how often it is found that failure has occurred from neglect to take into consideration some circumstances which experience should have shown to be necessary to provide for. It may certainly be said that one of the very numerous difficulties with which the sanitary engineer has to contend is that of the variation of volume of sewage to be dealt with at different times. It may be the case of a large house ordinarily occupied by the family and an adequate number of servants; at another time during hunting or shooting seasons the volume of sewage may be 50 per cent. more; again, when the family is away on a holiday the volume of sewage may be 75 per cent. less than the average. It cannot be said that such difficulties may be met by making the installation large enough to deal with the maximum, as it is well known that the septic tank which is suitable for a volume of sewage of 500 gallons may have its action upset by having to deal with double that amount, while, if only a quarter of the sewage or less comes down, the sewage may be over-septicised. Nor can it be said that oxidising bacteria beds and filters, if based on a provision for the greater volume, will work equally well with a minimum, and the resultant effluent, instead of being of a satisfactory quality, may be impure, and lead to trouble with neighbours or receipt of unkind letters from a local authority, or an inspector of a river conservancy. This is one of the greatest difficulties with which I am acquainted in connection with country-house sewage purification. The problem may generally be solved by designing the installation in parallel halves, capable of working as a whole to deal with the larger volumes, or in part to take a reduced volume, but even then the dimensions must be such as to afford elasticity for moderate variations of volume. In addition to this, reliance has to be placed on the attention to the works by someone to make the necessary alteration in the valves required by greater variations in volume. I might mention other difficulties, such as failures due to inattention, failure of the apparatus used to work properly, and others, which will readily occur to the minds of those who have had any experience in this class of work; but they emphasise what I have before said, that the greatest care should be exercised in considering fully the necessities of each case as it comes to be dealt with.

Country-house sewage purification is not a matter which can be dealt with by the enthusiast with a "nostrum"; unhappily it sometimes occurs that a householder falls into the hands of such an one, with results tending to the waste of money and much vexation of spirit. Again, I have seen instances where the money has been wasted, not on an improperly designed installation, but by introducing one which was more elaborate and complicated than necessary, and where a very simple process would have sufficed to do all that was required. The pecuniary aspect of the case is another of the many considerations, and one which demands looking into; in fact, it is frequently of primary importance. It will be within the experience of many that some simple arrangement has been the means of purifying sewage in a most unexpected way. I have seen the sewage of a country house of considerable size entirely dealt with in a satisfactory way by means of a slate bed, alternated twice a day by the gardener, and soakage in a ditch, without nuisance. This was, of course, on porous subsoil. I have also in mind a case where the sewage of a fairly large house was satisfactorily dealt with by passing it through two straining baskets in succession, and splashing it twice by means of tipping troughs over coke beds, the effluent afterwards passing into a small pond adjoining the garden, where cattle drank and ducks disported themselves. I mention these cases, as although very great care has been taken to ascertain what

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are the really requisite conditions necessary for purification of domestic sewage, it would seem that we have not yet arrived at a full knowledge of them, and that it is not always the most elaborate methods which produce the best results.

II.—HOUSE DRAINAGE: SOME OBSERVATIONS ON THE BARROW-IN-FURNESS SYSTEM.

Abstract of paper by Arthur Race, Borough Surveyor and Architect, Barrow-in-Furness.

The author's selection of this subject (one he feels sure does not need any apology for its choice) is the outcome of some remarks made by Mr. H. Percy Boulnois when presiding over a sectional meeting of the Royal Sanitary Institute's Congress held in Exeter last year. As one of the examples of progress in sanitary science, Mr. Boulnois referred to the report of the Departmental Committee appointed by the Local Government Board regarding the use of intercepting traps in house drainage; and pointed out what a great change of thought had taken place, this Committee finding, after exhaustive investigation, that an intercepting trap on house drains was not a necessity.

Recalling that the use of an intercepting trap in its customary position was abandoned in Barrow-in-Furness about the year 1878, and believing that the house-drainage system in this town, being unusual, has points of considerable interest, it occurred to the author that some particulars regarding house drainage as carried out in Barrow might usefully form the subject of a paper for discussion at a subsequent meeting.

Brief Summary of Findings of Departmental Committee.—Now the findings of the Departmental Committee might be referred to briefly as follows:

That sewer air, although unpleasant, very rarely contains micro-organisms of sewage origin, and, therefore, there is little objection to sewer air finding its way into house drains. This finding seems to be borne out by the fact that men engaged in sewer maintenance do not suffer in health through working in and about sewers. Thus the very danger that the intercepting trap was designed to prevent practically does not exist.

The opinion is expressed that drain air is more harmful than sewer air. The experiments proved that even the best-designed traps retained a considerable amount of excrement and other solids passing through them, varying from 42 to 79 per cent.; and, further, what is more important is that the trap becomes frequently choked, thus stopping the whole of the house drains (in some cases for days) without apparent effect, causing offensive and injurious gases to be generated which are liable and likely to find their way direct into the houses. The inlet ventilators, which are often placed near windows and at a low level, act on many occasions as outlets, and drain air is drawn into the rooms, the air being usually warmer in the room than outside, and it is common to find what has been constructed as an outlet ventilator, but without a rust pocket, entirely choked at the foot.

There is, the author believes, no doubt that the disadvantages arising from the use of intercepting traps are substantial and of serious practical importance, and that some of the most dangerous effects arising out of the disadvantages are concealed from view, and may remain in existence quite unknown to the householder for a considerable time.

Barrow System.—The house-drainage regulations in force in the county borough of Barrow-in-Furness are pursuant to powers contained in the Barrow-in-Furness Corporation Acts of 1868 and 1875.

In certain districts of the borough the sewerage is on the duplicate system, and in others on the combined.

The system of house drainage is shown by the drawing submitted. The chief feature is that the main house drain is not trapped from the sewer, a ventilating pipe being placed at the highest point of the drain, which acts as a ventilator both for the sewer and drains.

Where drainage of surface water from houses is required in the case of sewerage on the duplicate system, the rainwater downspouts are connected into a bend of the drain, which is connected to the surface-water sewer without any trap whatever. I do not consider this method to be ideal, as the drains become choked at the bend, and it is often a considerable time before the chokage is discovered, injury to health and property often having occurred in the meantime due to dampness.

A better method of dealing with this drain would, of course, be to discharge the rainwater downspout on to a gully at the head of the drain.

Where rainwater pipes have to be connected to a combined sewer, they are connected to a back inlet gully or discharge on to a P trap.

The size of pipes usually laid in drainage work in Barrow is 4 inches for rainwater pipes, yard gully, slop-stone and w.c. branches, the main drain being 6 inches diameter between the w.c. branch drain and the sewer. The gradient generally obtained is one of 1 in 30 for 4-inch pipes and 1 in 40 for 6-inch pipes, and the joints are made with tarred gaskin or yarn, and cement and sand, 2 of cement to 1 of sand.

Only pedestal wash-down closet pans are permitted to be used, and for internal w.c.'s the pan and trap must be in one piece. The joint between closet pan and lead bend through wall has to be either by a flanged joint bolted on, or by using a brass thimble and Portland cement connection to the earthenware, having a wiped solder joint to the lead soil pipe.

Prior to 1912, when the system was amended, the connections from the internal w.c.'s, &c., were disconnected by a "Bristol" trap placed on the branches, a separate inlet and outlet ventilator being provided for such branches.

Now this system has been carried out in Barrow since about 1878, and, with a reservation regarding the "Bristol" trap, it has proved eminently successful, and must have been far ahead of the times when introduced into Barrow by the then borough engineer, the late Mr. Jacobs. In addition to giving general satisfaction from a house-drainage point of view, it solves the difficulty of sewer ventilation (a serious problem in many towns), as there is a current of air in all sewers, air being admitted by the open manhole and lamp-hole covers in the streets and extracted by the ventilating shafts which are provided at the head of every house drain, complaints from sewer smells being practically unknown in Barrow.

Good as the system had proved itself to be, after studying the findings of the Local Government Board's Departmental Committee, in 1912 the author considered whether or not the "Bristol" intercepting trap, as used in Barrow on branch drains to internal w.c.'s, &c., was not open to the very objections proved against the intercepting traps when used to disconnect house drains.

The author believes the intended duty of the "Bristol" trap was to prevent gases from the sewer and drain air finding their way into the building, either by way of (*a*) defective joints or pipes, (*b*) the temporary or permanent unsealing of sanitary fittings.

There can be no question that gases from sewers and drains should be prevented from entering the house, and the question that arose was whether this could be better done with or without the "Bristol" trap. In order to investigate the matter the author obtained permission from owners of property in several parts of the borough to open up and break into the "Bristol" trap, so that its actual state under varying conditions could be ascertained.

After careful and detailed consideration by the Health Committee, in consultation with Dr. Orr, the medical officer of health, and the author, the use of the "Bristol" trap was prohibited except under special conditions.

III.—ECONOMICAL SUPPLY OF HOT WATER TO ARTISANS' DWELLINGS.

Abstract of paper by Alderman Henry Burridge.

The problem of how to supply hot water for baths and culinary purposes at a very small cost, more particularly for small dwellings, has for many years taxed the energies of hot-water engineers and other experts, and much progress has been made. The writer of this paper fully believes that the system he has adopted supplies a long-felt want. He is fully aware that various systems are in operation which give good results; but the expense of the installation, cleaning out of boilers, corrosion of pipes, and the repairs to supply cisterns, and in many instances a large coal bill, make the installation beyond the reach of the builder, and the tenants to pay the increased rents thereon; while leakages of side-boilers are of such frequent occurrence that these are to a great extent being discarded.

The writer has recently erected twelve seven-roomed houses, consisting of front room with bay window, sitting-room, three bedrooms, kitchen, scullery and bath-room combined, all rooms fitted with tile grates and hearths, electric light, at a rent of 6*s.* per week, or say £15 10*s.* per annum (not including rates).

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In the kitchen is fixed a range with flues communicating with the copper, built directly at back in the scullery in the usual way. Between the copper and range is fixed an horizontal damper to shut off the heat when not required for the heating of the copper. The usual copper furnace door and frame is fixed; in front of this is an airtight door and frame; by this means the copper furnace is made air-tight. When the copper is required for washing purposes this door is removed and the copper used in the usual manner. There are also three soot doors. These give access to any part of the copper flues for cleaning purposes without resorting to the old-fashioned method of using gunpowder.

The copper is provided with a cold supply, entering near the bottom, connected direct to main supply, and controlled by a stopcock, an open draw-off being fixed close to the top and continued over bath, the connections to the copper being easily detached to allow for removal of copper if required, without disturbing the brick or other pipes.

The bath is an ordinary 5-foot (Sienna) roll-top with brass trap and outlet, the waste being carried to the same outside gulley as the sink pipe, all properly trapped. The bath is covered with a door or lid hinged to the wall, so that when the bath is not required for bathing purposes it is let down and forms a seat or table for the washing tub or tray. The front of the bath is open so that it can be kept clean, and a wood slatted mat is placed underneath between the feet, and can be drawn out when required for bathing or any other purpose.

Having so far described the installation, let us see the result. The stopcock was turned on, copper filled, range fire lighted, air-tight door placed in position, the horizontal damper lifted. The heat from range then passed through the flue at back and circulated round the flue of the copper, from thence up the chimney, and in less than forty minutes the water was quite hot, although the brickwork in copper and range was quite cold and new. The ten gallons of water were in fact quite hot enough to give one a bath. The next day, after the fire had been working and the cooking done and damper again opened, the water was raised to almost boiling point in a very short time.

A further test was made in the morning before the fire had been lighted. The water in the copper was found to be quite hot enough for a bath, although it had been standing during the night.

I daresay some of my critics will say, "But what about the copper? It will in time burn out." So do boilers; they also fur up; so do cisterns, tanks, and all taps and pipes. Why do coppers burn out? Builders and property owners know full well. The cause is not keeping the copper properly filled with water, and the portion above the average water-line deteriorates. But by the system here described it will be seen that the copper always stands full of water, and the supply of hot water can only be obtained by turning on the stopcock and running in the cold water at the bottom. This raises the hot water, which then flows out of the top pipe into the bath.

I venture to say, as a practical man, that the life of a copper under these conditions would be two to three times longer than under the ordinary conditions. Another great advantage claimed for this system is the alternative method of heating by the use of the ordinary furnace below the furnace pan, the range damper in this case being closed, giving the advantage of having the water invariably hot to commence with, or before the furnace is lighted. Perhaps some people may have an objection to having a bath in the scullery; if so, the system here adopted can be utilised in any part of the house on the ground floor. The writer has built a great number of large and small houses, and fixed baths in some instances in a small bedroom at the back, the result being they were very seldom used. Why? Owing to the inconvenience of heating the coppers or kettles, and then carrying them upstairs to the very coldest room in the house.

The bath in the scullery, as you will see, takes up no room. When closed it forms a table or a place for the soiled linen. It is close to the glazed sink, with tap over same, the equivalent of the lavatory basin and entirely private, and is always warmed by the hot water in the copper.

For the information of the delegates I have worked out the cost, without fixing. The range, bath, copper pan, dampers, soot doors, and stopcock connections is £10.

Discussion.

Mr. Willis (Chiswick), in proposing a vote of thanks to the authors, said they must all agree with Mr. Tyndale as to the importance of the subject of house drainage. What he wished to emphasise was that simplicity was the main point they should aim at in all country-house drainage. He thanked Mr. Race for his paper because he believed they would have to come round in the future to the Local Government's Board suggestion with regard to the avoidance of intercepting traps. He knew it was rather heretical to say that, but Barrow-in-Furness was not the only town which had had most successful results with the absence of the intercepting trap. The only point which they must go very carefully into was as to how they could properly ventilate the sewers when changing over. He had tried to get his Council to drop the intercepting traps on new estates, where every house took its due share of the ventilation of the sewers. He quite agreed with Mr. Race that the old-fashioned trap was perfectly useless, and was a snare and a delusion, for it simply meant that they were collecting matter and giving off odours. The system of Alderman Burridge seemed a very excellent one, but he did not give much detail as to the cost of his buildings. There were many things which affected the housing question, and the conditions in different districts varied so remarkably that before they could analyse the whole matter they wanted more information. He might say, however, that he had seen a similar system adopted elsewhere with very good results.

Mr. Grace (Liverpool) said that the vast majority of towns were not having new building estates opened, and therefore they wanted more information from Mr. Race as to what would happen in the transition stage. He happened to live in a hilly district, and there was a house there which no tenant would stop in longer than a few months, and he thought that was due to the house doing more than its proper share in the ventilation of the sewer. Speaking from the architectural point of view, he would be only too glad to hear of some compulsory powers of getting rid of these intercepting traps. Mr. Burridge's system was extremely interesting. The ingenious arrangement by which the copper was always full seemed to afford a cheap means of getting hot water; but he thought the copper ought always to be covered, and he knew a good many people who could not be trusted with a simple thing like that described.

Mr. Lacey (Oswestry) said Mr. Burridge's system seemed a very practical and ingenious method of supplying water to artisans' dwellings. Much had been said at different times with regard to the various uses to which baths in artisans' dwellings had been put, but if the working man, or anyone else for that matter, had to go to a great deal of trouble in carrying water from the fireplace before he could use his bath, then there was a great inclination to dispense with that most necessary thing. With Mr. Burridge's arrangement there appeared to be one difficulty. He thought it would be better if the supply of water to the boiler were governed by a ball valve. The stop-tap might be left running, which would not only obviate the possibility of getting hot water, but would would result in waste. If a small tank could be fixed at about the level of the water in the boiler, which could be governed by a ball valve, in addition to the stop-tap, which would also be necessary, that would be an additional safeguard, and, to his mind, it was almost a necessity. He would like to know whether Alderman Burridge had a separate flue to the boiler. The boiler had to serve a dual purpose, and he was not quite certain that the flue should be separated from the kitchen-range flue. The cost given by the author was £10 without fixing, and that appeared to him to be somewhat excessive. They could buy a decent bath and provide the whole of the fixtures which were indicated at something more like £6 than £10. The author had pointed out that in any circumstances they would have to provide the range with a furnace back, and the additional cost should not exceed four or five pounds for each cottage. The only other matter was the position of the boiler, which to him would seem to have some effect on the limitation of the design of these small dwellings. That, no doubt, could be got over by careful planning, but it was a point which might present a little difficulty. Apart from that, he was sure the system described must appeal to everyone present as being the most simple method which could possibly be propounded for providing hot water for dwellings of this class.

Mr. Walryn joined with the other speakers in thanking Mr. Burridge for the very ingenious scheme which he placed before them for supplying hot water to artisans' dwellings. There was one point which he did not quite follow, and that was as to what would happen if, on the wash-day, when the housewife had the copper full of

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clothes boiling, the pressure was taken off the main. He should have thought it would have been better to have had a ball valve, in the same way as they supplied water-closets. He would like to ask Mr. Race why he had no ventilating shaft on the sewers. The question had been raised as to what would happen in the transition stage when they were doing away with intercepting traps. The town he came from did not exist practically thirty years ago. It was a colliery town, and had grown rapidly. The result was that they had by-laws so that where syphons had been put in there had been a ventilating shaft at the head of the drain. In that way they got the whole of their sewers ventilated through the house drain, and did not find much difficulty.

Mr. Dunkerly (Oldham) said he had been very much interested in Mr. Burridge's building of his houses to let at 6s. a week, but he would have liked to have seen a plan of the buildings so as to know the details of the various works required in the houses. It seemed to him an extraordinary thing that the author was able to build a house to let at such a rent, and he should like to hear what the strength of the outside walls was, and also other particulars as to building.

Mr. Jenkin (Finchley) said that he was largely interested in the question of workmen's cottages, and in the cottages they had built so far they had not given hot water. In his district the system adopted of getting hot water into the copper would be quite contrary to the regulations of the Water Board. With their regulations, if the pressure was taken off the main and the copper was full of dirty water, the dirty water might be drawn back into the main, which would be very undesirable. He understood the author mentioned the use of water from the copper for culinary purposes, but it seemed to him a remarkable suggestion that five minutes after boiling dirty clothes in a copper the occupier should use the water for culinary purposes. He did not think they should use the water for both purposes. Another point was that in his experience the ordinary housewife did not like the copper always full, but she liked to boil just enough water for her purpose, so as to avoid using more soap than necessary. They had to take notice of these points if they were going to get tenants to use the houses. After great consideration he had come to the conclusion that the best way of giving hot water, if they gave it at all, was to supply a boiler and let the ordinary copper be used for washing purposes only. As to house drains, he noticed that Mr. Race had no inspection chamber at the end of the drain, and apparently if any stoppages occurred they would have to pull up the back yard. Another thing was, how did Mr. Race guarantee that the manholes in the street should act as inlets?

Mr. Race, in reply, said the question had been put as to how they were to deal with towns which at the present time had the intercepting system and wished to change over. He would say there would be some real difficulty, and he would commence by adopting it in new estates. Then, if in any part of the town there were smells from sewers, the corporation or the sanitary authority might take a certain number of the houses and alter the drainage system, and do away with intercepting traps and put in a ventilating shaft. There were no separate shafts for ventilating sewers in Barrow, and even in the residential districts, where they had detached houses, they had found no necessity for them. Mr. Jenkins mentioned a point about the necessity for an inspection chamber on the house drain. They took every precaution they could to see that the drains were properly laid in the first place, and his experience of the borough, extending over thirteen years, was that very little difficulty in stoppages or other defects in house drains occurred. They could not justify the expenditure of an inspection chamber to small houses. He did not say that they guaranteed the manholes in the streets to act as inlets, but he did say they had no complaints of smells from sewers. Whatever the theoretical position might be, there was the fact.

Mr. Alderman Burridge said he had been asked for details of the cost of his houses, and he knew perfectly well that cost very much depended on the rate of pay of the workers in the towns they lived in. Well, they paid the trade-union rate of wages prevalent in Bedford. So far as the strength of walls was concerned, they worked under the regulations of the Local Government Board by-laws. Their by-laws were about twenty-five years old, and they were anxiously waiting for the issue of the new set of by-laws, which they hoped would give builders and property owners the opportunity of building houses far cheaper and under more sanitary conditions. The walls were 9 inches thick; they put 4 inches of solid concrete underneath every floor, and there was a proper damp course, which had to be a certain number of inches above the ground. They had a very stringent building inspector, and they never need employ an architect, because the building inspector would do the whole of the work for them. The cottage he referred to cost about £225, including the land, £30. It was a seven-room cottage. He would point out, however, that his paper was on the hot-water supply, and he showed them a house in which the system was actually adopted, and there was a great demand for this kind of house. Roughly, the cost of the house was about £190 without the land, and it was a good house at the same time. Then, with regard to the point raised by Mr. Lacey, he would again point out that what he had told them was not theoretical, but was actually in existence. They could clean the copper just as thoroughly as the kitchen range. With regard to the cost, he was very careful to give the maximum instead of the minimum cost. He put it down as £10, but if he had to do it himself he would say £7. As to the question of using the copper for a dual purpose, it did not matter whatever system they adopted, for they could not protect themselves against neglectful people. As a matter of fact, however, the washing of clothes occurred once a week, and the copper could be emptied easily and wiped out. If people allowed the dirty water to remain in the copper, they could not help that.

TOWN PLANNING AND INDUSTRIAL TOWNS.

At the recent Congress of the Royal Sanitary Institute at Blackpool Mr. F. W. Platt (chief building surveyor, Salford) read a paper on the above subject, of which the following is an abstract:—

Under what conditions can town planning be most economically applied? A brief classification of our towns might be made under the following heads: (1) Cities of old standing, partly industrial; (2) largest cities, industrial and commercial; (3) municipal and county boroughs, more industrial than commercial; (4) municipal boroughs and urban districts, entirely industrial.

In the first three in this list the problems to be solved are more similar in character than in the fourth. The fourth class is probably an example of a modern industrial town. Doubtless it had developed in a sporadic way. Originally it was a group of villages dotted upon the country side, all connected with one another by roads more or less narrow. The inhabitants depended for their existence upon their skill in a particular industry. As the industry increased in volume buildings were erected alongside the roads connecting the various villages. No ordered plan of development was prepared. A community of interest, however, existed, which, actuated with motives of self-preservation, made application for a charter of incorporation, and thus a town was formed.

But how little civic cohesion exists at such a place! Rarely is there even a civic centre for business purposes, and seldom are there present any of the balancing forces which exist in the large cities. Their place is taken by local parochial jealousies, and as a consequence the administration of public health matters is often subjected to hostile criticism by the contending parties.

Yet such towns present better opportunities of improving their conditions at less financial cost than do the larger towns. Their geographical position in relation to the undeveloped areas is an advantage in the future planning of the town, and it is rare to find in a town formed as here described that the density of population is great over a considerable portion of its area.

Let it be remembered that a town-planning scheme may be made in respect of: (1) Land in course of development, or likely to be used for building purposes; (2) land so situated, in respect of land likely to be used for building purposes, &c., that it ought to be included in a town-planning scheme made in respect of such before-mentioned land, *i.e.*, land already built upon but adjoining vacant land; (3) land upon which it is necessary to carry out works to complete a scheme made in respect of lands of which items 1 and 2 form part; and that the general objects of town-planning schemes are to provide proper sanitary conditions, amenity, and convenience in the laying out of lands.

Before any town-planning scheme may become operative, it must receive the approval of the Local Government Board. The first step towards obtaining this is to prepare a *prima facie* case that a need to town plan exists.

Thus the scheme has its origin, and its details must be prepared with due regard to the principles set out above.

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A large scale map of the district as now existing should first be examined and afterwards compared with old maps. The sequence of the growth of the town can be followed by these means, and the situation of the vacant land disclosed. An opinion based upon the foregoing examination should be formed whether such land is "land," &c., within the meaning of Conditions 1, 2, or 3.

When forming this opinion it is important to note that it is the situation and not the size of each plot which is the governing feature. An acquaintance with Section 54 (7), Housing and Town Planning Act, will also be of much assistance at this stage.

Should it be found that the bulk comes under Condition 1, namely, "Land in course of development," &c., it ought not to be difficult to prove that the land adjoining it should be dealt with under Condition 2. Condition 3 is a necessary complement of the preceding conditions.

All that remains then is to show that the "general objects" of a town-planning scheme are fulfilled, and (subject to certain procedure rules being followed) the *prima facie* case is made.

In the meantime some of the land and buildings may have been dealt with under Part 1 of the Housing and Town Planning Act, 1909; for example, closing and demolition orders may have been issued.

The prospective as well as the immediate value of a town-planning scheme becomes more apparent during the actual preparation of the town plan. Ideals are translated into facts and find expression in the joining up of the various parts of the district with a chain of roads. By these means light, air, and the prevailing winds are admitted into the more densely developed areas, through which the links pass.

The plan should also make provision for the re-development of those areas already cleared or closed under demolition orders.

The making of the roads through these areas would cause an increase in value to arise in the land adjoining such roads; and the improved traffic facilities to the land would render it more suitable for industrial or commercial purposes. One-half of the value attributable to these causes would be claimed by the local authority, and applied by them to meet the cost of demolition in other places.

Already it has been shown in many towns that a large scheme of public improvement may be as advantageous to the landowners as it is to the local authority, if planned on town-planning principles.

Small industrial towns do not, as a rule, possess many open spaces in their centres. Instances are frequent where circumstances such as contours have rendered it essential for a larger number of houses or other buildings to be erected upon a given area of land than is now thought desirable. Where such exist the provision of an open space in close proximity to a crowded area has a balancing influence. The principle of betterment, recognised by the Act, could then be applied to the adjoining buildings, and the property being improved, the district would be healthier and another amenity added to the town.

There is another aspect of the case for town planning, which the inclusion of a developed area discloses, namely, that in the making of the inquiries consequent upon the need to include, a valuable and precise knowledge is obtained of the needs of the industries and habits of life of the inhabitants within the area.

How important this knowledge is will readily be admitted when it is remembered that the future healthiness of the town and its prosperity depend upon the careful allocation on the town plan of areas for specific purposes, and the co-ordination of the industrial, commercial, and domestic parts of the town. The foundation of wise provisions based upon the particular experience thus gained must result in conditions obtaining, whereby each section of the inhabitant community would be able to enjoy the maximum degree of convenience and comfort.

The problem of the industrial town does not end when the dense areas have been opened out by arterial roads.

The standard of limitation of the number of houses to the acre must receive attention. A minimum "population density" is of the essence of this subject.

Medical officers of health have declared that a high "population density" has a most detrimental influence upon the health of the community, and that this is not ascertainable by reference to death-rate statistics alone. The death-rate may not be high, but an individual examination shows a diminution in vitality and inability to combat disease.

Recent experiences have proved that where children living daily in the same district have attended schools in different areas, those attending the schools in open situations have improved in physical conditions to a measurable extent over those remaining in or near the centre of population.

Conditions of life in industrial towns tend to deterioration. Men and women work long hours in close situations. The stress of modern industry takes its toll of their nervous forces, and the hours of rest and of recreation are not too many.

The skilled artisan of the town represents about 60 per cent. of the total population. He is willing to take advantage of good conditions of housing, and responds to such conditions more readily than the careless, inefficient, and ignorant.

These facts should be considered when determining the standard of limitation, and the standard should be that which would enable this type of worker to obtain the fullest degree of health in his dwelling. The actual number of houses depends upon situation and the connection of the area with other dwellings. Fifteen has been considered a reasonable maximum for industrial centres, and whether the "land unit" to which it applies be one or more acres, provision should be made that under no circumstances would it be possible to crowd a large proportion of the houses on one part of the unit, and leave the remaining land open for other prospective use.

The economic aspect of town planning requires but little comment. Every local authority has experience of the cost of street widenings. It is also spending annually enormous sums in sanitary administration to combat the effects of bad housing in industrial centres. Less ascertainable, but none the less real, is the loss to the nation from sickness, ill-health, and premature death.

The treatment of tuberculosis alone is estimated, by a medical officer of health competent to give such an estimate, to cost in a town of 230,000 a sum of £20,000 per annum for several years hence.

If town planning were to save one quarter of this annually, it would be a sufficient reason for its adoption. It is claimed that it will do more, for the Town Planning Act possesses all the potentialities for the removal of the results of disordered growth, and opens out a vista of a hygienic town of desirable dwellings amid ordered surroundings for the future children of the nation.

Discussion.

Mr. J. S. Brodie (Blackpool) said that, seeing that Mr. Collins, the City Surveyor of Norwich, was present, and he had been appointed a member of the Departmental Committee of the Government in connection with the new Building By-laws, they might take the opportunity of working off some of their ideas in regard to the matter of those by-laws, and he hoped Mr. Collins would take a note of what was said, so that they might have their ideas at least considered by the Departmental Committee. Mr. Platt seemed to think that a good deal could be done in the way of town planning under the by-laws, but most of them would be familiar with the fact that many of them were driven to go to Parliament with private bills because the Local Government Board were so very timid in granting the local authorities any strong by-laws. The Local Government Board were very timid of going beyond the general law. He hoped that the Board, through the Departmental Committee, would proceed to show a little more backbone in regard to entrusting local authorities with stronger by-laws in respect of building operations. When he said stronger, he did not necessarily mean that there should be repressive by-laws or anything in the way of preventing a builder from carrying out good building, but he did hope that they would have something which would enable them to get the builder to do his duty from the sanitary point of view, and that they would have good backing in the future rather than the halting and half-hearted support they had had in the past from the Board in regard to their by-law regulations.

Mr. Lacey (Oswestry) said that a matter he had constantly called attention to at meetings where this question was discussed was that there were many small towns where the growth was comparatively small, and where the preparation of a town planning scheme was almost entirely out of the question. If there were by-laws framed more on town planning lines, a great deal of good might be done. Mr. Platt had mentioned one matter which was in

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regard to the lay-out of streets which, under the by-laws, was very indefinite. There was also the question of the limitation of houses to the acre, so that the horrible streets of houses with practically no break between them would be obviated. He thought it might be so laid down under the by-laws that they could require streets to be laid out on the lines indicated in town planning schemes. If this were done, it would be a great service to many small towns who were not likely to undertake the preparation of a town-planning scheme. They were very glad to know that Mr. Collins was going to serve on the Departmental Committee, as he knew such a great deal about by-laws.

Mr. Jenkin (Finchley) said that he had had considerable experience in his district in connection with by-laws. The Town Planning Act said that one of the powers given under the Act would be the alteration or waiving of by-laws in connection with town-planning schemes. They had an arrangement with the Hampstead Garden Suburb. That was an association which was building over 600 acres, and they had made arrangements with them whereby certain things should take place. The question was comparatively easy in such a case, but when they came to deal with 600 or a thousand owners, the difficulties were very great. The Hampstead Garden Suburb agreed to do certain things. They agreed to put no more than so many houses on the acre, and to keep open spaces, and to give a minimum amount of space between the houses. His local authority went to the Local Government Board for by-laws for their No. 1 scheme, and said they wanted certain waiving and modifications of by-laws, and they were told by the Local Government Board that they did not think those by-laws should be special for any one town-planned area. They were told that if they altered their by-laws at all they should apply to the whole of the district, because otherwise they would be prejudicing builders in other parts of the district. They had had the utmost difficulty, and he was afraid they would not get consent. It seemed as if one department of the Local Government Board was pulling in one direction and another in the other direction. The Town Planning Department apparently seemed to tell them to make special by-laws for town-planned areas only, whilst the By-Law Department of the Board said that that must not be done.

Mr. Alderman Lloyd (Bristol) said he looked on the question of town-planning as the thing of the future for the development of their great cities. Everyone who had responsibilities in connection with great cities knew the difficulties of getting their towns laid out in a proper way, both for traffic and health. He was engaged in preparing a plan for the whole of their area, and he realised the difficulties before them. Mr. Adams, of the Local Government Board, however, had told them that many of the complications with regard to the preparation of schemes had been removed, and that the methods carrying them into effect were much simpler than they were. Bristol had a population of 400,000, and they required 1,000 houses per annum to keep pace with the population. One of their difficulties was to provide proper means of inter-communication from one part of the city to another.

Mr. Brodie asked if the committee which Alderman Lloyd presided over intended to include the old area of the town in a town-planning scheme.

Mr. Lloyd said the first thing they proposed to do was to lay down their lines of communication for the future for the whole of their city, which was a town of 37 square miles. It was an old city, and the natural lines of communication had been marked out. What they had to do was to see that the old natural routes were of sufficient width for the future. They were also trying to project routes to relieve the congested parts of the city.

Mr. Watkins said that he represented several rural districts, and would like to refer to the statement made as to the timidity of the Local Government Board. He thought it was recognised generally that the Local Government Board had no power to give what was asked for. Their experience had been that it was much better to deal with everything that could be dealt with by statute rather than by by-law. He hoped the Departmental Committee on by-laws would not take it that the majority of the local authorities believed that the present by-laws required very drastic amendment. It had been suggested in various quarters that the by-laws should be revised in the way of allowing galvanised iron buildings, and so on. His experience of a district where two galvanised iron houses had been built in the past few years was that both had been burned down. Most of the officials who had to deal with these matters thought that when by-laws were laid down they should be adhered to. In small districts every owner was an inspector, and if a concession was given to one person, then everybody else wanted it. Speaking from the point of view of a clerk to a local authority, he thought they should have the by-laws definitely settled, and there should be no waiving of them in favour of anyone.

Mr. Willis (Chiswick) expressed the opinion that town-planning should be compulsory to a limited extent over the whole of the country, for it was in the rural districts that they could carry out what they wanted at practically no cost. The building line, in his opinion, was one of the most important provisions which could be obtained under the Town Planning Act, and if they only obtained that one point, by which local owners could fix the building lines in all future streets, the Act would be a success. He thought there was a tendency amongst town-planners and architects to consider amenities before anything else, whilst engineers thought that sanitation and other things should also be considered. He thought they must combine the two things.

Mr. Munce (Belfast) asked why the Council of the Institute did not appoint a small committee to draw up model by-laws. He thought it was a shame they should take up so much time talking about by-laws which they said were bad, and never attempt to draw up something themselves. If the Council of the Institute would take it up, they might do something which would be good for the benefit of the whole country. With regard to the width of the streets in Belfast, they had taken the original routes and had laid down lines for widening them, and they were doing this widening bit by bit. They did not ask the Local Government Board, but when a man wanted to make an alteration to his property they made him conform to their line. They had one road three miles long, and they were widening it bit by bit. In another case, four miles from the centre of the city, a man brought them a plan and asked for a sewer to be laid in a road, and they agreed to lay it, but they got a lot of land there for the purpose of the street being a proper width. If Alderman Lloyd tried to make roads to prevent the traffic passing through the centre of his city, he would find he was doing the most unpopular thing he could, because traders did not want that.

STRESS DISTRIBUTION IN MATERIALS.*

The subject of stress distribution in materials is not one which an engineer can claim as his peculiar province, for it has been and still is a fruitful field of investigation for the mathematician, the physicist and the geologist, and has always been so since the commencement of scientific inquiry; indeed, it must have been the source of speculation and controversy ever since mankind emerged from a primitive state, and began to fashion dwellings, weapons, and tools from the materials at command.

The development of architecture from the earliest dwellings of savage races to the great temples of Egypt and Greece, the bridges and aqueducts of the Romans, and the mediæval buildings of Europe, all bear witness to the accumulation of practical knowledge of the properties of materials and of the stress distribution in structures, which we cannot fail to admire, although we know far too little of the way in which these ancient structures were planned and constructed. The magnificent arched and domed buildings of the Roman period, and the stately cathedrals of later times with their wealth of architectural form—tower and spire, flying buttress and vaulting—all show how considerable was the practical knowledge of stress distribution possessed by the master builders who planned and carried out these great structures. We, who inherit these buildings as a precious legacy of bygone ages, have at our command far greater resources in the accumulated knowledge of centuries of scientific discovery and invention, and can build more complex structures—great bridges of steel, towering frameworks covered by a thin veneer of masonry, and floating arsenals of the most bewildering intricacy. All these we can show to our credit as the result of the steady increase of scientific knowledge applied to practical ends, but, even now, knowledge of the stresses which come upon these complex structures and machines is relatively small.

* An address to the Engineering Section of the meeting in Australia of the British Association for the Advancement of Science, by Professor E. G. Coker, M.A., D.Sc., M.Inst.C.E., President of the Section.

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Scientific investigations of engineering problems of stress still lag behind constructive ability, and defective knowledge is obscured more or less by approximate theories and buttressed by factors of safety, which serve in one instance perhaps, but show in others that they have merely given a sense of fancied security with no real basis, and are more properly factors of ignorance, to be discarded at the earliest moment. Who, for example, can say with certainty what is the stress distribution throughout the compression members of a great bridge, built up of complicated steel shapes and plates, united by stiffening angles, gusset plates, and innumerable rivets. There is probably good reason for the belief that a great strut is relatively weaker than a small one, when both are designed according to the same approximate formulæ now used in current practice, and engineers are unwilling to take the responsibility for such members in a great structure, without providing a very ample margin of safety to cover the contingencies arising from lack of precise knowledge of the strength of these members. So numerous are the problems which arise in the design and construction of machines and structures, that it is perhaps not unprofitable to devote a short hour to the consideration of some of the available means which an engineer can use as a guide for his applications of science to construction, since of whatever kind are the professional activities he pursues, his place in the scheme of affairs mainly depends on his ability to make machines and structures for directing and modifying natural sources of power in known ways, or applying them to new purposes as scientific discoveries advance the boundaries of knowledge.

The power to do this depends, to no small extent, upon the ability to determine the distribution of stress in a structure, and the skilful manner in which material can be disposed for the required purpose.

It is of some help to our appreciation of the achievements of the great constructors of past ages, if we remember that they probably all held the erroneous view that materials of construction are perfectly rigid bodies, and, indeed, we know that as late as 1638 Galileo Galilei was of that opinion, and that he came to an entirely wrong conclusion as regards the stress distribution in a loaded cantilever.

It required the genius and insight of Robert Hooke to make a really great step, with his celebrated theory of the linear relation of stress to strain, and we can appreciate the glow of pride and satisfaction which he must have felt at his great discovery, when he records in 1675 that "his Majesty was pleased to see the experiment that made out this theory tried at Whitehall, as also my spring watch."

Hooke had, in fact, discovered the fundamental principle upon which a theory of the elasticity and strength of materials could be based, and it would be interesting to trace the great advances which were rapidly made from this new vantage ground, whereby the main facts of the distribution of stress in simple members of structures became known, and a foundation was laid for the great advances of the mathematical theory. If I am silent upon the enormous developments of the modern theory of the strength of materials it is not from lack of appreciation, but because I do not deem myself adequately fitted to discuss the great work of the elasticians, which all engineers admire, and so few are equipped to follow with the full battery of mathematical tools which have been pressed into service in the pursuit of this great science.

Among the greatest of the services rendered by early pioneers was that of Young, who was the first to notice that the elastic resistance of a body to shear was different from its resistance to extension or contraction, and this led him to define a modulus of elasticity for materials in compression. As Professor Love remarks, "This introduction of a definite physical concept, which descends, as it were, from a clear sky on the readers of mathematical memoirs, marks an epoch in the history of the science."

From the standpoint of the engineer, nothing is of more practical importance than the great discoveries of Hooke and Young, that bodies like metal, wood, and stone are "springy" and have a simple linear relation between stress and strain. It is probably within the mark to say that nine-tenths of all the experimental investigations on stress distributions in structures have been entirely based on the fundamental principles which they enunciated, and new uses are continually arising. The recent application of the steam turbine to the propulsion of ships produced a profound change in marine-engine practice, and incidentally involved an entire reconstruction of methods for obtaining the horse-power developed, which had been gradually perfected from the time of Watt, but were absolutely useless for the new system of propulsion. Hooke's discovery of the essential springiness of metals enabled engineers quickly to devise new instruments capable of accurately measuring the infinitesimal angular distortions of propeller shafts, and from these to determine the horse-power transmitted by the aid of an appropriate modulus.

The construction of tall buildings affords another example where advantage has been taken to determine the loads upon columns by measuring the minute diminutions of length as the structure proceeds, thereby affording a valuable check upon the calculations for these members, and a reliable indication of the pressures supported by the foundations.

The distribution of stress in buildings constructed of composite materials like concrete reinforced with steel has also been examined by similar methods, and much data for guidance in future constructional work has been obtained, especially in the United States of America.

The still more difficult problems involved in the determination of the stresses in joints and fastenings of complicated structures have often been investigated by purely mechanical measurements of strain, and the experimental investigations of Professors Barraclough and Gibson and their pupils upon the distribution of stress due to riveted joints and curved plates of boiler shells afford a notable example of the successful application of the measurement of small strains to a stress problem of great complexity.

That "science is measurement" is here sufficiently obvious, and it seems only due to the memory of that great engineer, Sir Joseph Whitworth, to refer to his great mechanical achievements of a true plane and well-nigh perfect screw, which enabled him to measure changes of one-millionth of an inch, and thereby gave experimental investigations of strains a new impetus, which is reflected in subsequent work on the subject. Nor must we forget the no less important exposition, by Kelvin and Tait, of the scientific principles of instrument construction, which have done so much for the design of instruments for the precise measurement of strains.

Mechanical measurements cannot, however, completely satisfy all our modern requirements, since they are essentially average values, and fail to accommodate themselves to many of the problems which press for solution.

In the quest for exact experimental knowledge, the measurement of stress at a point becomes of paramount importance, and we may therefore inquire what further means the researches of pure science have placed at our disposal for the determination of stress distribution in materials.

It is well known that many materials when tested to destruction show a considerable rise of temperature at the place of fracture, especially in very ductile materials; but Weber was the first to discover that a metal wire when stretched within the elastic limit is cooled by the action of the load, and this result was deduced later from the laws of thermo-elastic behaviour of materials by Lord Kelvin, who showed that tension and compression loads produce opposite effects, and that materials which have the property of contracting with rise of temperature show thermal effects of the reverse kind. Although the changes of temperature produced by stress are small within the elastic range—less than 1° C. for most materials—yet their effect upon a thermo-couple is readily measurable if the equilibrating effects of surrounding bodies are neutralised or allowed for, so that stress distribution can be determined by thermal measurements at a point. The correction for such disturbing causes is usually an important factor, and is generally so large that experimental work is more suitable for the laboratory than the workshop; but if all necessary precautions are taken a linear relation of stress to strain can be shown to hold up to the elastic limit of the material, while above this point the breakdown of the structure causes a rise of temperature of so marked a character that it has been utilised by several investigators as an indication of the yield point.

Experiments upon members subjected to tension, compression and bending show that thermal phenomena afford trustworthy indications of the stress in materials so diverse as a rolled-steel section, a block of cement, and beams of stone and slate. Although no attempt appears to have been made to investigate stress distributions of any great complexity, it seems not unlikely that thermal methods of investigation will ultimately prove of considerable value.

The transparency of metals to Röntgen rays is another phenomenon which has often been suggested as likely to be of service for work on stress distribution in materials, and Mr. Howgrave Graham and I have examined a number of rolled metals under stress up to the breaking-point, without,

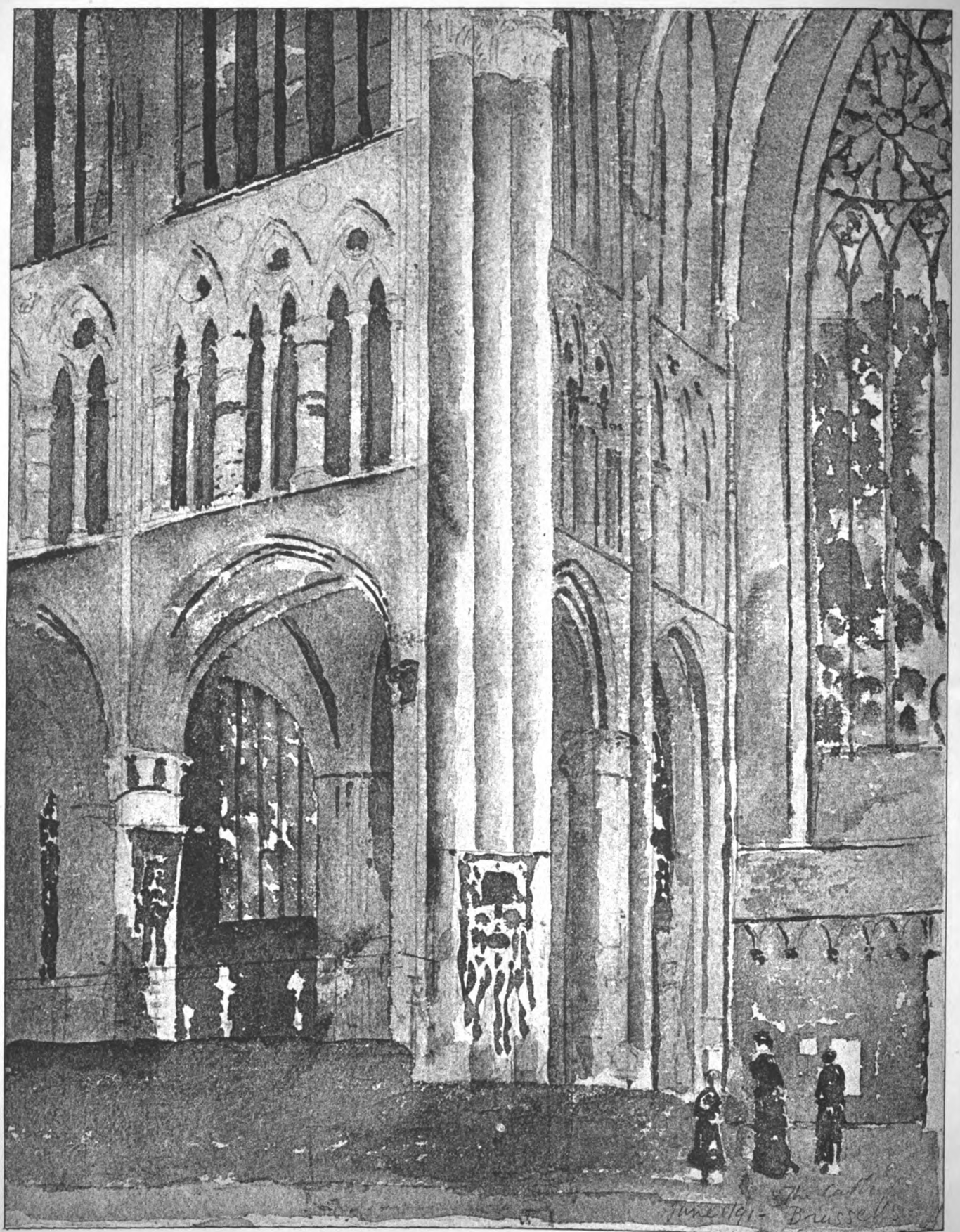
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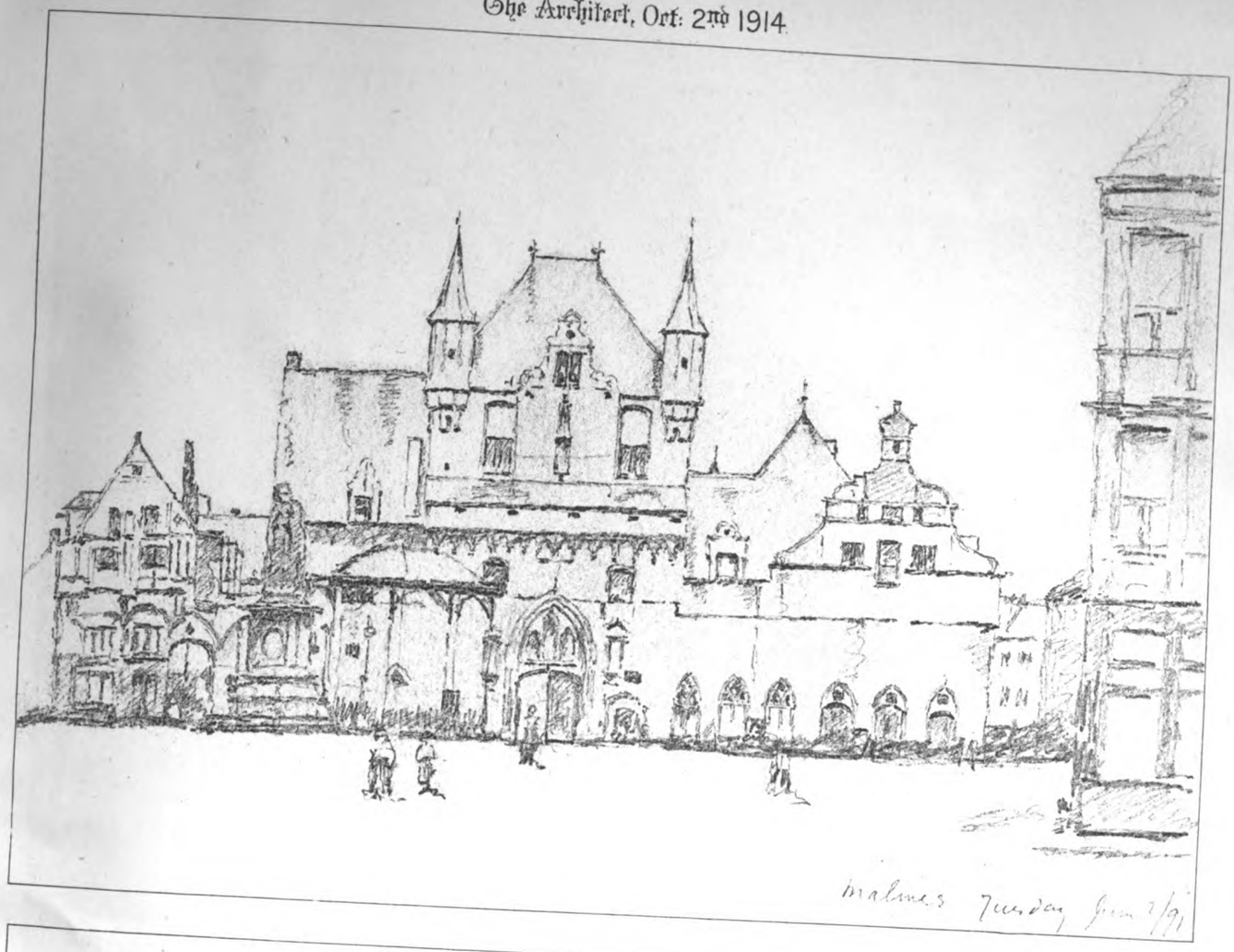


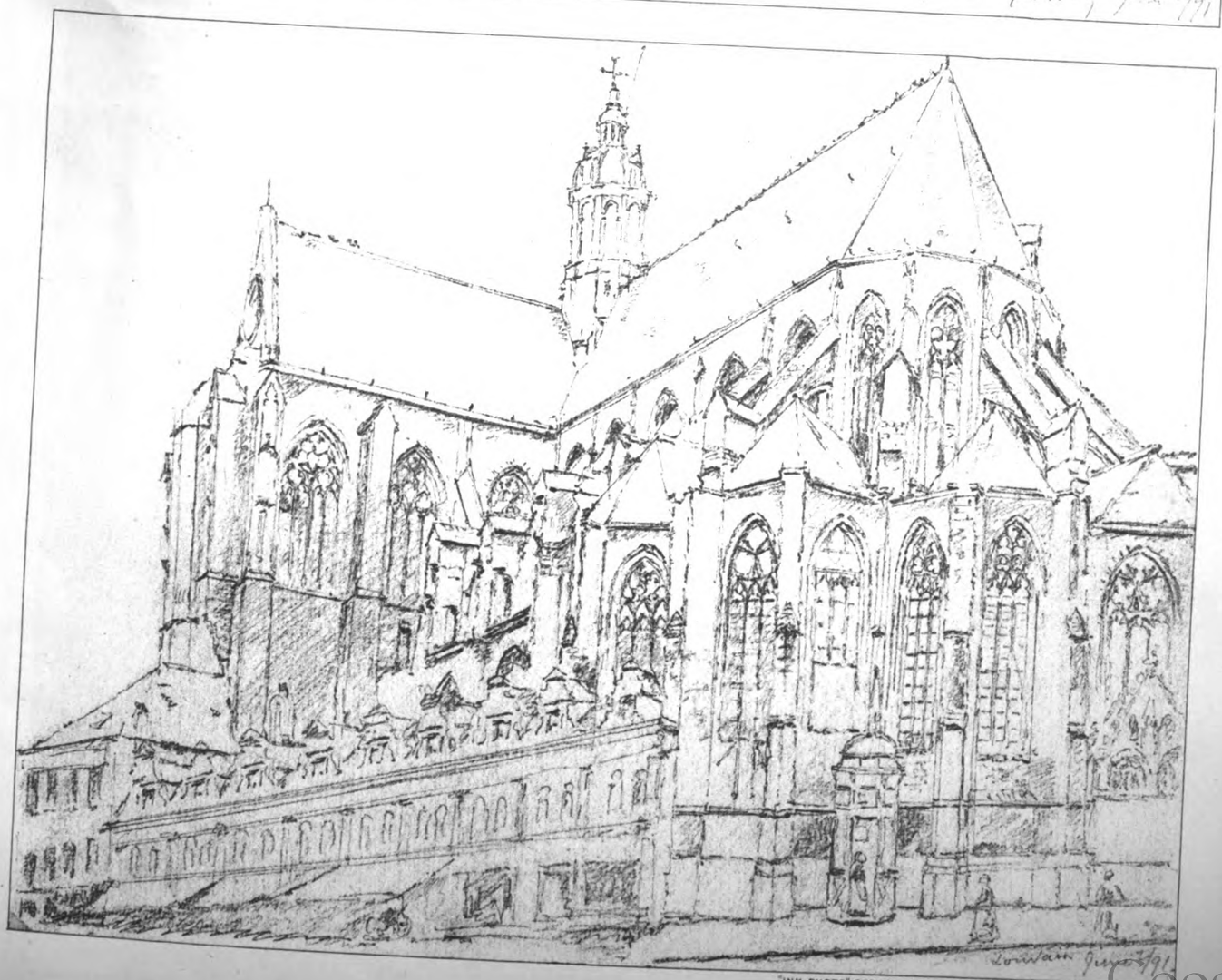
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SKETCHES IN BELGIUM:—INTERIOR, BRUSSELS CATHEDRAL.

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SKETCHES IN BELGIUM:—MALINES, LOUVAIN.

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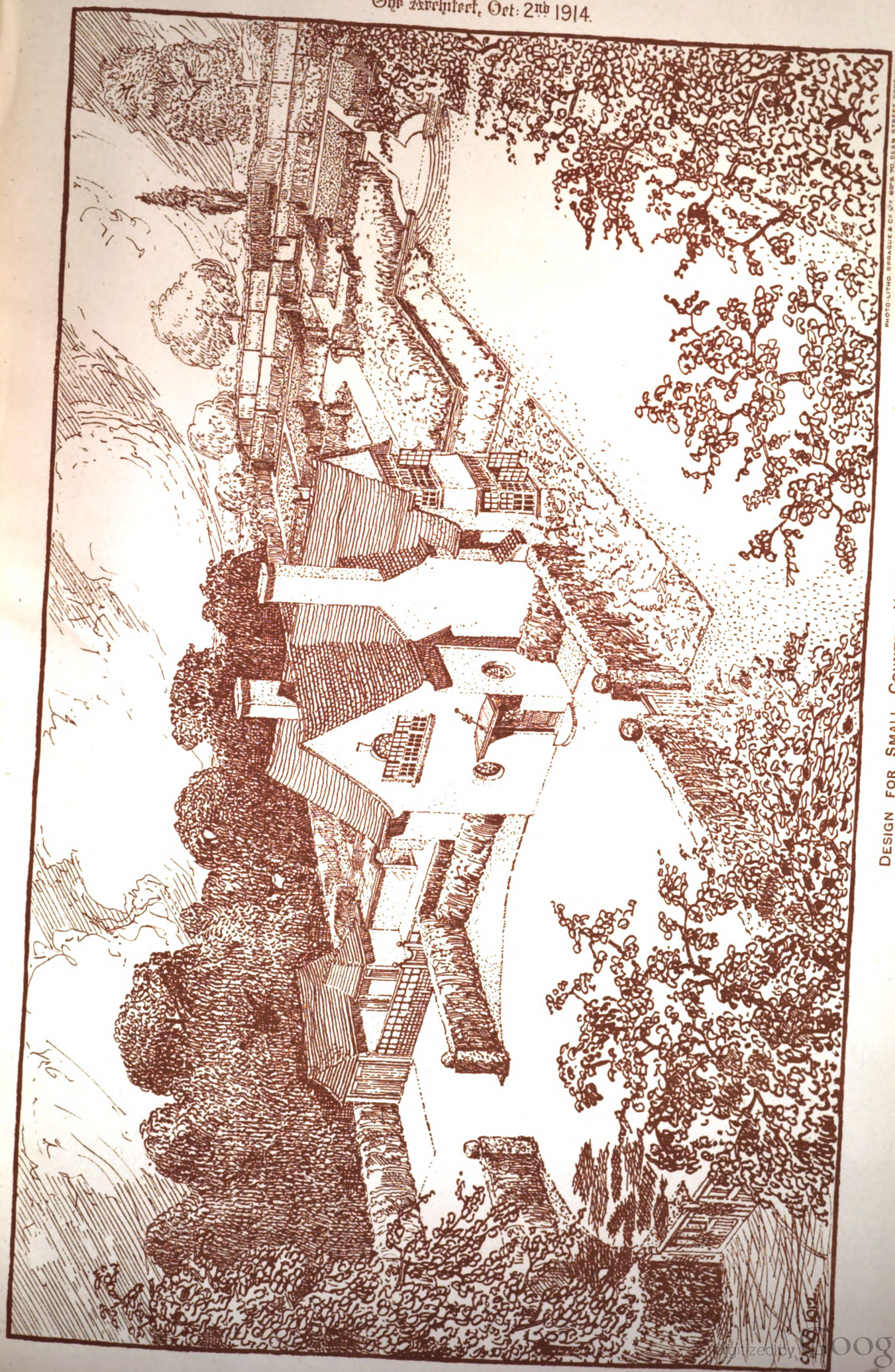


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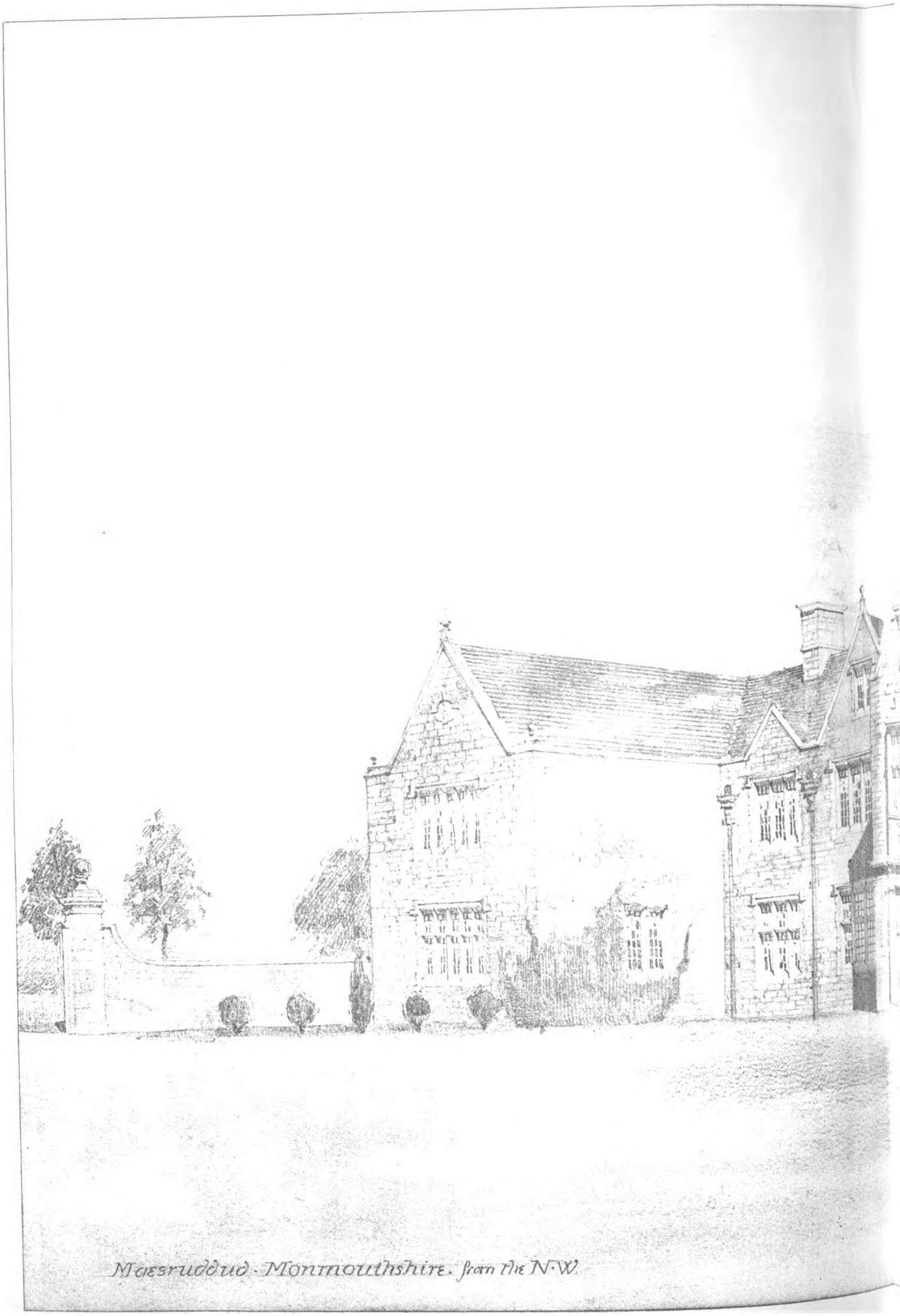
DESIGN FOR SMALL COUNTRY HOUSE.

By Mr. G. BERKELEY WILLS, A.R.I.B.A.

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Maesruddud · Monmouthshire. from the N.W.

(Royal Academy Exhibition, 1914.)

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RUSSIA.



[From *Zedtchy*.

CHURCH OF ST. GEORGE, IN BIELTZY, RUSSIA.—A. L. Krasnoselsky, Architect.

however, discovering any change in the appearance of the material as seen on a fluorescent screen. Although our experiments showed no perceptible change, it is, of course, not impossible that an effect may have escaped our notice.

Another and still more fascinating field of research on stress distribution is afforded by the doubly refractive properties of transparent bodies under stress, a discovery made by Sir David Brewster almost exactly one hundred years ago, and but rarely made use of since by engineers, although Brewster himself immediately saw its value for experimental purposes, and suggested that models of arches might be made of glass, and the effects of stresses due to loading rendered visible in polarised light.

Brewster carried his investigations further by the invention of a "chromatic teinometer" for investigating the nature of strains, and consisting of plates or bars of glass subjected to flexure in definite ways for comparison with the body under stress.

At a much later date (1841) Neumann developed an elaborate theory for the analysis of strain in transparent

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bodies due to load, unequal temperature, and set, while, still later, the youthful genius of Clerk-Maxwell supplied an algebraic solution for the stress distribution in any plate subjected to stresses in its own plane.

The early history of the development of this branch of science is, in fact, remarkable for notable contributions at long intervals of time, and the almost complete disregard by engineers of its practical importance.

The application of optical investigation to the determination of stress distribution in engineering structures and machines has, however, been hindered by causes which, although apparently insignificant, have been very real obstacles, and among these was the absence of a transparent material which could be fashioned into shapes suitable for investigating technical problems. It is not an easy matter, for example, to construct a glass model of a bridge free from internal stress, in the manner suggested by Brewster; and, moreover, glass is extremely fragile under load, especially in cases where the stress distribution in it varies very much, while the cost of construction is very great. Happily, there is now no necessity to employ glass for experimental investigation on engineering problems, since modern chemistry has supplied artificial bodies, such as the nitro-cellulose compounds used for many trade purposes, which have optical properties very little inferior to glass, are able to bear great stresses without injury, and also are capable of being fashioned with the ease and certainty of a wooden model. Photographic processes are also able to reproduce the brilliant colour effects caused by stress in transparent materials, so that permanent records can now be made for future reference.

The construction of polariscopes for examining models on a large scale is very essential for technical research, and the great scarcity of Iceland spar of sufficient purity and size for use as Nicol's prisms has caused much attention to be paid to the construction of apparatus for producing plane polarised light by the aid of sheets of glass. Fortunately this presents little difficulty, and although the light is not nearly so well polarised as that obtained from a Nicol's prism, it is sufficiently so for the purpose. Large quarter-wave plates of mica have also been constructed by my colleague, Professor Silvanus Thompson, F.R.S., for obtaining circularly polarised light, and these have proved sufficiently exact and exceedingly useful for large models.

It is of importance to show that the stress distribution revealed by a polarised beam of light passing through an elastic transparent material in no way differs from that obtained by other means, and evidence is available in modern researches, especially by Filon, that the experimental results obtained with glass agree with those of the theory of elasticity, while a satisfactory agreement of a similar kind has also been obtained with nitro-cellulose compounds, although not in so complete and direct a manner. Such an agreement may be expected on theoretical grounds, since the values of the elastic constants do not affect the fundamental equations for stresses in a plane, and although for three-dimensional stress the effect of the stretch-squeeze ratio causes some difference, yet this is usually negligible.

Most of the physical constants of glass have been determined with very considerable accuracy, but other transparent substances have so far received little attention, and their optical constants are not well known. The stress-strain relations of glass and nitro-cellulose have been determined with considerable accuracy, and a useful idea of their relation to metals may be gained from the values of the stretch-modulus, E, and the stretch-squeeze ratio, σ.

The accompanying table shows some average values for a few important materials, and it is of interest to note that the stretch-squeeze ratios of cast iron and plate-glass are very similar, while the values of the stretch modulus are nearly as three to two. These two materials also possess other like characteristics; they are both very brittle, and possess well-developed crystalline structure, so that we may expect the properties of cast iron under stress to be very faithfully followed by plate-glass.

Material	E	σ
Steel	30,000,000	0·25
Wrought iron	28,000,000	0·28
Cast iron	15,000,000	0·25
Plate glass	10,500,000	0·23
Nitro-cellulose	260,000 to 300,000	0·40

The high values of the stretch modulus for steel and wrought iron are not, apparently, approached by any transparent material having similar ductile properties, but although nitro-cellulose has a stretch modulus of rather less than one-hundredth that of steel, its stress-strain properties are not alike. In some recent experiments with a miniature testing machine fitted with an arrangement for recording the stress-strain relations of xylonite throughout the whole range of stress up to fracture, the main characteristics of steel appear on a very much reduced scale, and give additional confidence that the results of optical experiments on this material are applicable to metal structures.

The complete analysis of stress distribution in a plate is not, however, a simple matter, and the analysis of Clerk-Maxwell was intended to provide a solution based on the properties of the isochromatic and isoclinic lines, coupled with the law that the optical effect is proportional to the difference of the principal stresses at a point, and to the thickness of the plate.

A principal stress perpendicular to the bounding planes is assumed to have no optical effect; but since many cases have arisen where there are three principal stress components, it seemed desirable to examine such a case experimentally.

(To be concluded.)

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Wargrave.—Parish Church: rebuilding (£13,000).

DERBYSHIRE.

Borrowash.—Council school (£6,900).

Breadsall.—Parish church: proposed rebuilding.

Bugsworth.—Council school (£3,700).

Chinley.—Council school.

Derby.—Carnegie Branch Library, Pear Tree Road. Mr. C. B. Sherwin, architect, 32 St. Peter's Street.

DEVON.

Hawkmoor.—Sanatorium: alterations and extensions.

DURHAM.

Gateshead.—Proposed Council school, King Edward Street. Secondary school: proposed additions.

ESSEX.

Billericay.—Workhouse: proposed additions and alterations (£4,850). Mr. H. R. Bird, architect, St. Thomas's Gate, Brentwood.

Epping.—Manual and Cookery Centre. Mr. G. T. Forrest, A.R.I.B.A., County architect, 73 Duke Street, Chelmsford.

Shoebury.—Proposed working-class dwellings. Council surveyor.

GLOUCESTERSHIRE.

Cirencester.—Agricultural College: new buildings. Messrs. Oatley & Lawrence, R.I.B.A., architects, 25 Orchard Street, Bristol.

Coleford.—Public Elementary school for infants, West Dean.

HAMPSHIRE.

Basingstoke.—Twenty-two cottages. Mr. W. H. Tigwell, builder, Wote Street.

HERTFORDSHIRE.

Berkhamsted.—Two houses, Kitsbury Road, for Mr. C. Harrowell.

KENT.

Canterbury.—Baptist Church, St. George's Place: additions. Messrs. Jennings & Gray, architects, 4 St. Margaret's Street.

Proposed Council School.

Kennington.—Offices, Bockhanger, for East Ashford R.D.C.

Ramsgate.—Holy Trinity Parish Hall. Mr. W. T. Stock, architect, North Avenue, The Elms.

LANCASHIRE.

Liverpool.—Police Station, Heyworth Street.

Liverpool (near).—Moss Side Institution, Maghull: Six pairs of cottages for the staff.

Rishton.—Council school. Mr. H. Littler, County architect, 16 Ribblesdale Place, Preston.

LINCOLNSHIRE.

Holbeach.—Children's home, for B.G.

Three pairs of houses, Fleet Road, for East Elloe Council.

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Included in the Illustrations in this Portfolio will be found "the masterly delineations by Samuel Prout" of

Malines, Louvain, Liege,

and many other Towns. See Illustrations and Note by Mr. Charles Lynam, F.S.A., F.R.I.B.A., in "The Architect," October 2, 1914.

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Street in Nuremberg.
The Grand Canal and Church of St. Maria Della Salute, Venice.
The Ducal Palace and Pillars of St. Mark, Venice.
Piazzetta San Marco, Venice.
The Interior of St. Mark's, Venice.
The Rialto, Venice.
Bridge of Sighs, Venice.
Mausoleum of the Scaliger Family, Verona.
The Cathedral, Lausanne.
Street in Schaffhausen.
Basel, from the Rhine.
Geneva, View of the City.
Street Scene in Geneva.
Old Houses, Sion.
Como from the Lake.
The Cathedral, Milan.
The Cathedral, Milan (Interior).
At Domo D'Ossola.
The Roman Forum.
Temple of Pallas, Rome.
The Cathedral and Bridge over the Saône, Lyons.
The Church of St. Symphorien, Tours.
Ancient Church, now the Corn Hall, Tours.
Interior of the Castle Chapel, Amboise.
Interior of the Cathedral, Chartres.
Antwerp Cathedral.
Town Hall, Bruges.
Hôtel de Ville, Brussels.
Scene in Ghent, with Cathedral, &c.
Cathedral, Malines.
Kraenstrate, Malines.
Hôtel de Ville, Louvain.
Tournay, with Cathedral.
Palais du Prince, Liège.
Hôtel de Ville, Utrecht.
View of Cologne.
Hôtel de Ville, Cologne.
On the Walls, Cologne.
City of Cologne.
Near Godesberg.
Braubach-on-the-Rhine.
Andernach-on-the-Rhine.
Coblence.
The Cathedral, Mayence.
Château de Martinsbourg, Mayence.
Roman Pillar and View at Igel.
The Dome, Frankfort.
Sachsenhausen, Frankfort.
View of the Castle at Heidelberg.
Basel.
Cathedral, Ratisbonne.
View in Ratisbonne.
Ancient Building in Ratisbonne.
Old Palace, Bamberg.
View in Bamberg.
Wurtzburg, Ancient Bridge and Castle.
View in Wurtzburg.
View in Augsburg.
View in Nuremberg.
Strasbourg, with Cathedral.
View in Strasbourg.
St. Omer, Strasbourg.
Ulm, with View of Hall.
View in Munich.
View in Prague.
Ancient Buildings in Prague.
St. Nicholas Church, Prague.
Thein Church, Prague.
Hôtel de Ville, Prague.
Street in Dresden.
Ancient Buildings in Dresden.
View in Dresden.
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ENGLAND—*continued.*

MONMOUTHSHIRE.

Risca.—Council houses.

NORFOLK.

Horsford.—Working-class dwellings (£1,800).

NORTHUMBERLAND.

Morpeth.—Workhouse: Infirmary (£7,500).

SHROPSHIRE.

Wem.—Smithfield Market (£3,200).

SOMERSET.

Bath.—Mineral Water Bathing Establishment: extensions (£60,000). Mr. A. J. Taylor, architect, 18 New Bond Street.

Secondary school.

Bridgwater.—Workhouse: boiler-house, &c.

Radstock.—Two houses, Smallcombe Road, Clandown, for Mr. W. Chedgy.

Welton.—Farmstead, Millard's Hill, for Mr. J. Stevens.

Williton.—Children's home, for B.G.

STAFFORDSHIRE.

Burntwood.—House, Cannock Road, for Mr. T. H. Davies.

Burslem.—Police Station: alterations.

Hammerwich.—House, Stockhay, for Mr. S. Osborne.

Stoke-on-Trent.—Drill hall, &c., Newcastle Street, for the County T.F.A.

Tamworth.—Cemetery chapel (£1,120). Borough surveyor.

Wolverhampton.—Sixty workmen's dwellings, Green Lane (£12,000).

Works, Fallings Park: extension, for the Efanden Electrical Engineering Works.

SURREY.

Coulsdon.—Wesleyan Sunday school (£1,800).

Croydon.—Council school: additions. Mr. H. C. Pegg, architect, Alnwick House, Thornton Heath. Messrs. F. & H. F. Higgs, contractors, Station Works, Loughborough Junction, S.E. (£10,930).

Guildford.—Business premises, for the West Central Dairy Co., Ltd. Mr. E. L. Lunn, architect, 36 High Street.

SUSSEX.

Brighton.—Council School, Middle Street: alterations (£2,000).

Horsham.—Council schools.

Wick.—Isolation Hospital: extension (£3,000). Mr. H. Howard, Littlehampton, Council surveyor.

WARWICKSHIRE.

Atherstone.—Workhouse: alterations.

Coventry.—Frederick Bird Council School, Swan Lane: additional 400 places. Messrs. G. & J. Steane, architects, 22 Little Park Street (£5,350). Also Little Heath Council School: additional 650 places (£10,150).

Council School, Narrow Lane, Foleshill.

R.C. School, Stanley Street (250 places).

Technical school (£25,000) Mr. A. W. Hoare, architect.

Foleshill. Two houses, Crescent Avenue, Stoke, for Mr. T. Harris.

Grendon.—Four cottages, Boot Lane, for Mr. R. Jones.

Hartshill.—Two houses, Church Road, for Mr. T. Stonehouse.

Kenilworth.—Twenty-four cottages. Mr. Sholto Douglas, architect, Council Offices (£4,132). The following contractors for:

Eight cottages (£1,392). Mr. J. H. Laurance.

Six cottages each (£1,038). Mr. A. J. Satchwell and Mr. J. Barker.

Four cottages (£664). Mr. W. H. Lawrence, Mill End.

Radford.—Council school: additional fifty places.

WILTSHIRE.

Bratton.—Four houses, for Westbury R.D.C.; also

Dilton Marsh.—Four cottages.

WORCESTERSHIRE.

Malvern.—The College: additions. Messrs. Wheeler & Searle, R.I.B.A., architects, 7 Stone Buildings, Lincoln's Inn, London.

YORKSHIRE.

Castleford.—Premises, Wheldale Lane, for the Co-operative Industrial Society, Ltd. Mr. A. Hartley, architect, County Chambers.

Gisburn.—Six working-class houses (£1,400), for Bowland R.D.C.

Hull.—Tuberculosis hospital (£14,450).

Selby.—Working-class dwellings, Flaxley Road.

York.—Municipal houses.

WALES.

Aberdare.—Isolation hospital (£11,500). Mr. E. C. H. Maidman, architect.

Bryncethin.—Elementary Council school (£4,150).

Clydach.—Boys' Council school (£6,600).

Glyncorrwg and Llansamlet.—Council schools (£4,400 and £3,100 respectively).

Neath.—Joint isolation hospital (£14,000).

Ruthin.—Workhouse: infirmary.

Tairgwarth.—Council school (£5,500).

Ystrad Mynach.—"Royal Oak" Hotel: rebuilding. Mr. C. M. Davies, architect, 112 High Street, Merthyr Tydfil. Mr. A. W. Julian (of Pontypridd), contractor (£2,193).

SCOTLAND.

Dumbarton.—Electricity Works: extension, for the Electric Supply Corporation.

Dungarvon.—Artisans' houses (£14,000).

Irvine.—Fifty-two municipal dwellings in blocks. Kirk Vennel and Ayr and Ballot Roads (£17,000).

Keith.—Cinematograph theatre, Mid Street, for Messrs. Archibald & Gray (of Buckie).

IRELAND.

Belfast.—Electricity station, Hamilton Road (£49,000).

Newcastle.—Dispensary (£1,400), for Rathdrum B.G.

PATENT SPECIFICATIONS PUBLISHED SEPTEMBER 24, 1914.

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No. 21,289. Sept. 20, 1913.—William Drayton, Shawnee, Perry, Ohio, U.S.A. Brick kilns.

21,446. Sept. 23, 1913.—A. J. Howard, Hazelford, Mount Nebo, Taunton. Tiles for carrying and protecting electric cables, gas pipes, water pipes, and the like.

22,131. Oct. 1, 1913.—T. W. & Bateman Bennett, Phœnix Iron Works, St. Neots, Huntingdon, and Edward Burden, 44 Badlis Road, Walthamstow. Heating and cooking stoves.

22,703. Oct. 8, 1913.—Dated under International Convention Dec. 6, 1912. Soc. Vallave de la Nouvelle Persienne Tole A. Nervures J.D., 15 Boulevard Saint-Jean, Le Puy (Haute-Loire), France. Metal shutters for windows and doors.

17,412. July 29, 1913.—Mary Hooker, 233 Portland Road, South Norwood, Surrey. Air gas-making apparatus.

25,940. Nov. 12, 1913.—C. W. Tonks, Temple Works, Willenhall, and Donald Donald, Masterton, Wellington, N.Z. Locks and latches.

27,802. Dec. 3, 1913.—J. W. Setten, 117 and 118 Livery Street, Birmingham. Pencil grip or compass.

29,171. Dec. 1913.—William Johnstone, 187 Derby Road, Southampton. Door holders.

34. Jan. 1, 1914.—W. W. Holmes and W. J. Conner, Los Angeles, California. Gas heater for buildings and the like.

105. Jan. 2, 1914.—Fred Thackeray, borough architect, 3 Cambrian Terrace, Gwaelodygarth Road, Merthyr Tydfil, Glam. Concrete columns with curved slabs and wire belts.

1,293. Jan. 17, 1914.—A. R. Craddock, 169 St. Asaph Street, Christchurch, New Zealand. Cramps for cramping matchboarding, floor boards, and similar purposes.

3,475. Feb. 10, 1914.—Dated under International Convention March 7, 1913. J. J. M. Gueux, 15 rue des Fêtes, Paris. Apparatus for controlling the flow of fluids through conduits.

5,887. March 31, 1914.—G. L. Scott, 59 Queen's Crescent, Haverstock Hill, N.W. Portable domestic cooking stoves heated by gas or any other medium.

11,600. May 11, 1914.—Edward Gibbons, 30 Wharf Road, City Road, N. Fastening for roofing tiles and other purposes.

11,745. May 12, 1914.—Dated under International Convention May 14, 1913. G. C. Hunter, 1,392 West 3rd Street, Cleveland, Ohio, U.S.A. Band saw.

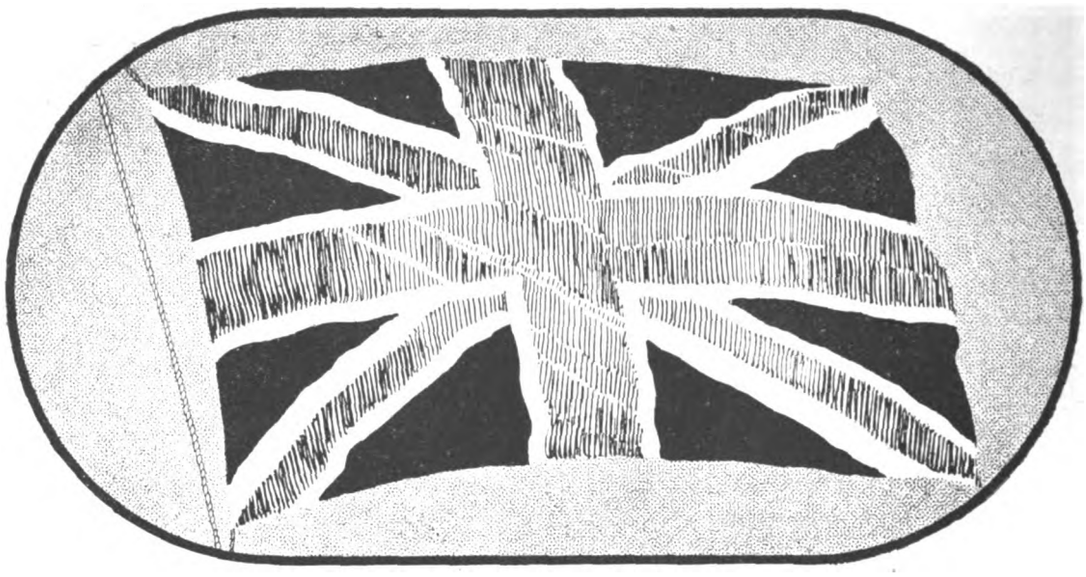
12,856. May 25, 1914.—The Kinnear Manufacturing Company, Columbus, Ohio, U.S.A. Folding doors and the like.

15,972. July 3, 1914.—Dated under International Convention July 7, 1913. Edouard Van Montague, Dampremy, Belgium. Automatic discharge mechanism for mortar mills or mixing machines.

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4,349. Feb. 19, 1914.—Dated under International Convention Nov. 19, 1913. Robert Houben, 18, 20 Avenue de la Sculpture, Brussels. Manufacture of concrete.

9,866. April 21, 1914. Eugene Kibele and W. G. Vreeland, Chattanooga, Tennessee, U.S.A. Pipe or like wrenches.

10,599. April 29, 1914.—W. D. Versehoyle, Tanrago, Ballisodare, Sligo. Device for retaining in the open position doors and the like.

10,989. May 4, 1914.—Edward Cladel, 401 E. 76th Street, New York, U.S.A. Sanitary garbage cans.

11,612. May 11, 1914.—J. B. Malaby, 149 Berkley Street, Phil., U.S.A. Wall plugs or sockets.

7,036. March 20, 1914.—Harry Townsend, jun., St. John's Villa, Wakefield, York, and J. W. Wilson, Carlton Works, Armley, Leeds. Wash boilers.

8,366. April 2, 1914.—J. H. Barralet, "Fairview," Sydenham Hill Road, S.E., and the Davis Gas Stove Co., Ltd., The Diamond Foundry, Luton, Beds. Geysers.

9,964. April 22, 1914.—J. A. Wilson, 18 Abbot Street, and J. F. Bladzik, 57 Adams Avenue East, Detroit, Mich., U.S.A. Valves.

5,726. March 6, 1914.—J. H. Moore, 200 Woodstock Road, Oxford. Non-contact closets.

24,412. Oct. 28, 1913.—Dated under International Convention, Nov. 28, 1912. Emil Mertz, of Emil Mertz Maschinenfabrik, Basel, Switzerland. Air-humidifying apparatus.

25,287. Nov. 5, 1913.—Joseph Stretch, 30 Francis Street, Chapeltown Road, Leeds. Brick press.

25,866. Nov. 12, 1913.—J. M. Rutter, Farnham Road, Guildford. Boiler for domestic and such like purposes.

27,494. Nov. 29, 1913.—F. G. Richards, 53 Alfred Street, Swindon, Wilts. Means for supporting or hanging sliding doors.

27,909. Dec. 4, 1913.—J. W. Guimont, 217 Mount Royal West, Montreal. Water heaters.

28,089. Dec. 6, 1913.—W. F. Gammon, 4 Albion Villas, Sydenham, S.E. Clips for repairing slated roofs.

28,284. Dec. 9, 1913.—W. E. Parkes, Union Works, Willenhall, Staffs. Coin-freed locks or latches.

28,584. Dec. 11, 1913.—P. T. J. Estler, 15 Dowgate, Hill, Cannon Street, E.C. Construction of ferro-concrete buildings for warehouses, store-rooms, and the like.

29,554. Dec. 22, 1913.—Dated under International Convention, Aug. 27, 1913. W. R. Kerr, 1 The Terrace, Malvern, and W. H. Murphy, Linda Crescent, Hawthorn, Victoria, Australia. Adjustable fastening means for rigidly securing stirrups or shear members to tension and other bars used in reinforced concrete construction.

118. Jan. 2, 1914.—Dated under International Convention, Jan. 2, 1913. J. T. Dwyer, 3031 Eads Avenue, St. Louis, Missouri, U.S.A. Process of making soft solder.

2,058. June 26, 1914. R. P. Brousson, 47 Parliament Street, Westminster, S.W. Apparatus for melting or boiling tar and like substances.

2,937. Feb. 4, 1914.—W. W. Townsend, Old Rectory, Hythe Hill, Colchester. Geysers.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

A.A. War Service Bureau.—Comforts for Architects on Service.

Sir,—I feel sure that architects will be interested to know that some 150 members of the Architectural Association, including the President of the A.A., are now serving in the Army and the Territorials. Several instances have come to my notice of unnecessary hardships owing to the lack of simple comforts. It has been suggested by some of the men themselves that the Association might act as a central body to look after as far as possible the interests of the A.A. men and their friends serving with the Colours either at home or abroad.

For this purpose a small sub-committee has been formed, which is in touch with the various units, to find out their immediate wants. I attach below a list of the articles that are now most wanted, and I earnestly ask for assistance. All offers of help and gifts in money and kind should be addressed to me at the offices of the Association, 18 Tufton Street, Westminster, S.W., and I shall be very glad to give any further information to inquiries sent to me at that address.—I am, yours very truly,

Dorothea M. Webb.

List of Articles Required.—Blankets, belts (knitted or woven), sleeping helmets, flannel shirts, socks, towels, soap, tobacco, cigarettes, papers (daily and weekly), magazines.

Local Authorities and Housing Schemes.

Sir,—Considerable misapprehension exists in the minds of local administrators and others interested in housing schemes as to the new financial arrangements for municipal and "public utility society" housing schemes, and I shall be glad if you will allow me to explain briefly what the position now is. Under Housing (No. 2) Act, 1914, the Local Government Board has practically unlimited power as to the spending of the monies allocated for housing purposes, but it has been definitely decided that no grants in aid of housing schemes will be made to local authorities. No useful purpose will, therefore, be served by sending Council deputations to London to interview the Board. All that can be assured them is that State money for housing schemes will still be available for periods of sixty years for houses and eighty years for land, the rate of interest, however, being 4 per cent. instead of 3½ per cent., as has been the case since 1907. When the war is over, however, local authorities will be permitted to effect new loans at lower rates if such an arrangement is possible. The financial effect of the increase of the rate of interest is to require an increased annual payment of 8*s.* 3*d.* per £100 for interest and sinking fund. In other words, if it is supposed that the cost of a cottage is £200, the rent to be asked by the local authority will be 4*d.* per week more than when the rate of interest was lower. In addition, the cost of building has gone up by rather less than 10 per cent.—7½ per cent. will probably be about the current figure—and on an ordinary municipal cottage the rent increase will be about 2*d.* per week. It may be assumed, therefore, that on the average the rents of new dwellings built by local authorities will be about 6*d.* per week more than before the war. This should not be taken as an excuse, however, for suspending building operations. There is some likelihood of the new rate of interest being permanent, and there does not seem any probability of any considerable reduction being effected in the price of materials even when the war is over. It seems safe, therefore, to prophesy a big advance in the average rentals of working-class dwellings during the next ten years. As to public utility societies—that is, housing societies—limiting their dividends to 5 per cent., the possibility of obtaining advances up to nine-tenths of the value of working-class dwellings seems now very remote. Such societies, however, may still borrow up to the value of two-thirds of their property for periods of thirty or forty years, but the rates of interest have advanced from 3½ to 3¾ per cent. to 4 and 4¼ per cent., and several Welsh societies are likely to suffer in consequence. Private building agencies are worse hit than local authorities owing to the moratorium and the suspension of ordinary financial arrangements. Although the increase of unemployment in the building industries in South Wales has as yet been quite insignificant, there can be no doubt that when existing work is completed a period of depression must come unless local authorities have housing and other building schemes ready.—I am, &c.,

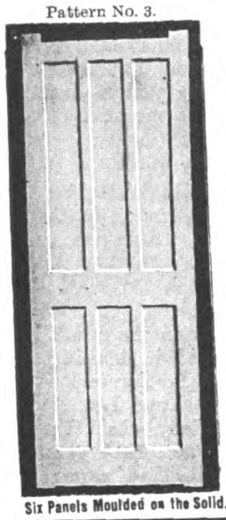
Edgar L. Chappell,
Secretary South Wales Garden Cities and Town Planning Association.

3 Pembroke Terrace, Cardiff.

The Tynemouth Town Council have adopted a scheme for the building of a garden city upon the Balkwell Estate, at the west end of the borough. The scheme embraces the erection of about eighty houses of three types:—Twelve to be let at a rental of, probably, 5*s.* 6*d.* per week (covering all rates excepting water rate), thirty-six at 6*s.* 6*d.*, and thirty-two at 8*s.* Each house will be self-contained, and have a garden at the front and rear. It is further proposed to erect fifteen houses in East George Street, and Prospect Terrace, North Shields, of types similar to those at Balkwell.

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THE ARCHITECT

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FORTHCOMING EVENTS.

Thursday, October 15.

University College, London : Public Inaugural Lecture of School of Architecture Department of Town-Planning on "The Democratic View of Town-Planning," by Professor S. D. Adshead, M.A., F.R.I.B.A., at 5.30 P.M.

Wednesday, October 14.

Manchester Society of Architects : Presidential Address by Mr. F. B. Dunkerley, F.R.I.B.A., at 6.30 P.M.

St. Paul's Ecclesiological Society : Paper entitled "Wing Church, Buckinghamshire," by Mr. G. J. B. Fox, at 8 P.M.

DETAILS OF GARDEN-MAKING.

THE first item of detail that requires consideration in the making of a garden is the entrance to the grounds. Where circumstances permit there is no doubt that this is more happily placed on the north of the estate, leaving the preferable aspects of south, east and west available for prospects from the house over the garden; but if such conditions do not obtain the garden-maker must adapt his scheme to his data. The character of the entrance will depend on the importance of the house and the extent of the funds that can be expended, but in every case some degree of dignity should be sought, and for this aim advantage may well be taken of any fine trees, or even evergreen shrubs, that may be already established. A pair of twin lodges, with richly wrought gates and piers between, will be only occasionally possible, or indeed suitable, for the entrance must not be such as to exceed the key-tone of the house, and those to the mansion and the week-end bungalow must not be applications of the same model. It is remarkable how almost universally effective is the recessing of the actual gateway from the limiting lines of the enclosure.

Having passed the entrance gate we then have to consider the approach to the house. For this, as for most other things in garden-making, there can be no hard and fast rule. The drive from the lodge gates, if of any length, is little different from a beautiful country road save in its privacy. Its course will be determined by the contour of the ground, and it will have to be formed in a substantial manner to stand the wear of heavy traffic. Through an undulating park it can follow the devious curves which the way of least resistance offers, and it is permissible to fetch a wide circuit to reach a fine view or pass through a beautiful glade. The formality of the garden does not require its extension into the surrounding estate, which is nothing more than an enclosed portion of the countryside, and it is a laudable desire to make the drive through the property as beautiful and varied as possible.

Very different, however, should be the treatment if the house is near to the road or the country is flat. Then the direct access is preferable rather than an artificially contrived meandering drive. Now comes the opportunity for the avenue, if distance is sufficient to give it due scope, and it is remarkable how very small a distance is required to give something of the avenue effect even if it be no more than parallel rows of shrubs in tubs on either side of a crazy path. Whether the approach be winding or straight, it is, however, desirable that its actual impact on the house should occur in something of the nature of a courtyard. The sense of formal design should begin to be felt, whilst the crudity of abrupt termination of the drive or path against the front door is to be avoided. The path, so to speak, should expand to embrace some considerable part, if not the whole, of the front to which it leads.

The courtyard connotes more or less of enclosure, and the enclosed space may by its fashioning be the pleasantest place on earth; it may also be the dreariest. The courtyard of the manor-house, the college quadrangle or the cathedral cloister, the Italian cortile, and the Spanish patio—all these are examples of the restful beauty which can be obtained by a little skilful handling. Given the eye of an artist, there are very few buildings which do not suggest by their own arrangement or that of their surrounding walls and boundaries some easy conversion into this, the simplest and most beautiful contrivance of architectural planning. The essence of its design is to let the structure of the house, or the conditions of its site, suggest an idea, and then to use our invention and ingenuity in working it out to its own charming conclusion, and if on no other side of the building, that facing the entrance is almost certain to lend itself to the courtyard treatment.

Since the courtyard, as we have said, connotes more or less of enclosure, we now come to the consideration of the materia for enclosures in garden-making. Walls, hedges, and fences are the most obvious of these. To an architect designing a garden walls have naturally an attraction, and for purposes of practical gardening, whether in the growing of fruit, flowers, or vegetables, they fulfil the important functions of shelter from cold and strong winds, and of conservation and radiation of heat gathered from the sun's rays. In building a garden wall it is important to steer safely between two equally undesirable extremes. The material used must not be of so unyielding a nature that it repels the impress of time and weather; nor should it, on the other hand, partake of that tasteless and formless character known to misguided enthusiasts as "rustic" work. The one is as fatal as the other. A wall is a piece of building, it is architectural in its nature, and should have that quality of precision in form and outline which architecture demands. Yet it must be of the garden, it must not intrude, and it must readily yield to the natural processes which will mellow and stiffen its surface. And as this mollifying influence of original crudity is slow in operation, the wall surface may desirably possess a texture which in itself forms an initial pleasant variation of light

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ENGLISH COTTAGES—A FENLAND COTTAGE.

and shade, whilst it invites the action of weather and aids the growth of creepers and parasitic plants which assist to blend its colour and tone with the living vegetation in the midst of which it is placed. Local materials, whether stone or brick, are almost always preferable to exotic importations. According as the district provides, thin laminated rubble, ragstone or chalk are each in their own locality admirable. So with brick, except in those unfortunate cases where this material is hard, glassy or impervious, so that it resists the action of weather and resolutely maintains its primal crudity. Still, even with such unpromising material, much can be done if needs must by skilful devices in joints, and in the introduction of tiles and other material to break the monotony of the stock.

Hedges lend themselves, when grown of yew, box, beech, and the like to a considerable variety of treatment without transgressing too far into the realms of topiary work, and always, if well grown and cut and of sufficient thickness, form naturally satisfactory enclosures. Nothing gives greater dignity, even majesty, to the garden than the giant hedges of clipped yew that we have inherited from the past. These hedges have been planted in a hundred different ways to obtain every advantage in plan and skyline for the interplay of light and shade, by means of which much beauty is added to their ponderous masses of dark green. In the planting of hedges it must, however, be remembered that their full maturity will occur only in the future, and there should be in view a definite aim when that is attained.

Variety of plan can very well be introduced in the lay-out of hedges. Square-cut recesses sunk in the thickness of the hedge and spaced evenly along its length form a fine background for a lawn; others, curved on plan, range from the slightest curvature to deep cusp-like or scalloped recesses almost surrounded by the hedge itself. Broad buttresses of green can be formed on the face of the hedge, and when grown to a great height give an appearance of immense strength to these apparently massive walls. Arches can be formed, imitating a long arcade, a most effective treatment when enclosing a lake or pool of water.

Fences also afford scope for considerable variety of treatment. We are not limited to the complete screen of park pales, we can also employ the simple post and rail, with espalier fruit-trees, or we can indulge in almost any extent of elaboration in the design of treillage.

Much useful information and many valuable hints for design in the details of garden-making on which we have touched can be obtained by the student from Mr. Walter H. Godfrey's book* on "Gardens in the Making."

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

We are pleased to have received a larger number of contributions to our work this month, and trust that the newcomers will steadily persevere through the programme of the coming months.

Mr. W. A. Robb sends measured drawings of the well-known and justly highly appreciated south porch of Glasgow Cathedral. The drawings are satisfactory and include details of the mouldings, half full size, which is a scale not to be recommended, as it tends to distort comprehension. It is better to make detail sections of mouldings either full size or not to larger scale than one-third full size.

Mr. B. Fraser contributes a well-executed set of drawings, including details of a porch from Woodchurch Church, Wirral, an interesting example of Late Perpendicular work, when its decadence had already commenced.

"Toga" has selected the south porch of Ryton Church, Co. Durham, as his subject. The drawings are incomplete, as only an unfinished front elevation and part plan with full-size mouldings are included.

The excellent Early English doorway of Christchurch Priory, Hampshire, forms the subject of Mr. S. E. Whitaker's drawing, but this lacks jointing, a most important part of the study of Gothic work, whilst the mouldings are on far too small a scale to be really valuable records. The author states "all moulds measured full size and reduced." This is a prejudicial waste of time and labour. Having measured them full size, he should

* *Gardens in the Making.* By Walter H. Godfrey. With illustrative designs by the Author and Edmund L. Wratten. (London: B. T. Batsford, Ltd. 5*s.* net.)

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have kept them so on his drawings, particularly as they are of excellent character and design.

"Harley" has chosen a Norman doorway from Shere Church, Surrey, the arch of which is richly ornamented with characteristic chevron work of rather late date, but the shafts and capitals, if as drawn, must be a substitution for the originals. Jointing of the arch is unhappily omitted, as it is particularly important in Norman work, and often indicates whether the executant was an Anglo-Norman or a Franco-Norman.

"Spotus" sends us a good set of drawings of the Perpendicular west porch of Ivinghoe parish church, Bucks, which is in itself interesting, especially from its stone roof, and forms the approach to a good Early English doorway in the church wall.

"Improver" has measured and drawn a simple but effective doorway from Beltingham Church, Northumberland. The drawing appears to be the result of careful measurement and contains sufficiently full information.

We award prizes of half a guinea each to Mr. W. A. Robb, Mr. B. Fraser, "Spotus," and "Improver."

NOTES AND COMMENTS.

The latest reports in the series of "Red books" issued by the British Fire Prevention Committee relate to (No. 191) "Fire tests with fire extinguishers known as the Great Western Railway extinguishers" and (No. 192) "Fire tests with partitioning material in the form of 'Calno' boards." The fire extinguishers tested are charged with a solution of calcium chloride in water, which appears to possess the property of preventing a fire from easily rekindling—a form of trouble that is often developed in the case of fires even when the original outbreak has apparently been extinguished. The report deals with two classes of apparatus, one the ordinary well-known form of extincteur, in which a jet is thrown under pressure from the machine, the other a peculiarly shaped can from which the liquid is poured into a cup and thrown by hand. Needless to say, the efficiency of the latter type of apparatus depends largely upon the pluck and skill of the operator, but both forms appear to be reliably effective. The tests on "Calno" boards demonstrated the extent of their temporary resistance to fire, which for purposes of proper estimation of value needs to be compared with that of other materials tested by the British Fire Prevention Committee.

Pending the publication of the complete report, the *Birmingham Daily Post* gives some particulars of the finds that have been made this year during the course of excavations at Uriconium.

Over 300 coins have so far been unearthed this year; but none of them is of later date than the reign of Theodosius I. Among them is one British coin. Much glass ware and pottery have been found, belonging to the four centuries during which the town appears to have been occupied. It is worth notice that the art of the third and fourth centuries shows a marked decadence as compared with that of the second century, which is represented by pottery beautifully adorned with leaves of ivy, vine, and horse-chestnut, and finely glazed. The later specimens of pottery often resemble the coarsest types found at Pompeii.

Among the architectural features discovered this year may be mentioned the foundations of an amphitheatre. It lay to the north-west of the temple which was unearthed last year, and came down near to the Severn. Thus it was within the city walls, like the amphitheatre at Caerwent, not outside the walls, as at Silchester and Dorchester. The presence of the amphitheatre is quite in accordance with the conception previously formed of the importance of Uriconium in Roman times. Another well has been opened up, completed at the top by magnificent square-headed masonry in perfect condition. Further, the object served by the drain which was discovered last year, running along the street in which the temple stood, has now been ascertained. It is not a true drain but a conduit, which supplied water for the purpose of flushing the drains proper. The latter ran at right angles to the conduit down to the River Severn. It is very interesting to learn that sanitary arrangements similar to those found at Wells at the present day were employed at Uriconium. The water was led into the conduit from the Bell Brook, which entered the city at its north-east corner and was tapped at its upper point. This water-course has been traced by Mr. Bushe-Fox, and the discovery of it has given him much pleasure.

In order to fulfil the twofold purpose of developing cultivation and providing immediate employment, the Development Commissioners have since the outbreak of the war initiated proposals for reclaiming waste lands in the country, and placing them under profitable cultivation. The scheme applies to England and Wales, and will be worked through the medium of County Councils and Agricultural Colleges, to whom landowners are invited to send particulars of such waste areas in their possession as might usefully be brought under cultivation, upon terms to be subsequently arranged.

The object in view is explained in a circular sent under date August 20 to the various County Councils by the Development Commissioners, containing the following:—

I am to suggest that in consultation with the College for the Province, your Council should formulate schemes for the acquisition and reclamation of any land which may be available on reasonable terms. The Development Commissioners are prepared in principle, and within the limits of the funds available, to recommend advances either to County Councils or to Agricultural Colleges for the execution of approved schemes, these advances to cover the cost of acquisition (if any) and the cost of reclamation, on the terms that after land is reclaimed it shall either be sold or leased, and the proceeds paid to the Development Fund. In the case of suitable land which the owner may be willing to put temporarily at the disposal of the Council or College, the Commissioners would suggest that when the improvement is completed the owner should pay the value of the improvement as fixed by agreement or by arbitration if necessary, such payment to be made either in a lump sum or by instalments over a series of years.

The cost of reclamation may be held to include the cost of any special equipment, machinery, or temporary housing arrangements, and of providing for proper supervision, organising, and expert advice in excess of what is already available from the County or College staff. It is not at present contemplated that any conditions should be imposed as to the character of the labour to be employed, or that any other rate of wages should be paid than the normal local rate for the kind of work.

If your Council and the College are prepared to put forward schemes of this nature, I am to request that when complete they should be forwarded to this Commission for consideration, and that they should contain the following among other particulars:—

1. Area, situation, elevation and character of soil of the land to be reclaimed.
2. Terms on which the land can be acquired, if not already in the possession of the Council or College.
3. Estimated cost of reclamation, number of men who would be employed, and period for which they would be employed.
4. Estimated rental value of land after reclamation.
5. Whether the County Council will be responsible for the execution of the scheme and for any advance made from the Development Fund for that purpose, or whether it is considered that the Agricultural College should be charged with that duty.

A few miles from Tattershall, between Lincoln and Boston, stands a forlorn building. The monks of Kirk-

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stead, whose abbey has completely vanished, save for one gaunt and slender fragment, built at a few yards' distance a chapel to serve the parish. It is a gem of Early English architecture, 43½ feet long by 19½ feet wide, with lancet windows and vaulted roof, the walls and vaulting decorated with the most exquisitely carved foliage, and the easternmost boss having a representation of the Lamb and Flag. Here and there distinct traces of the old colouring have been discovered by the careful removal of the limewash, and behind the figure of a knight wearing a strange barrel helmet of the thirteenth-century style was found part of a consecration cross on the south wall. Over the west doorway, with its elegant shafts and dog-tooth ornament, is a window of vesica shape, with a graceful arch let into the outer wall on each side.

In 1913 the Rev. John Wakeford, Precentor of Lincoln, became Archdeacon of Stow. The patronage had by long lapse passed to the Crown, and the Archdeacon himself was appointed to the unendowed vicarage. With the assistance of Mr. William Weir, architect, he set to work to cleanse the desecrated building, strengthen its bulging walls, restore the roof to its proper pitch (thus accommodating a vestry, for which the original staircase still exists), and prepare the place for its proper use. When these works were completed the Bishop of Lincoln "reconciled" and rededicated the church, tracing anew the consecration cross, and singing the Liturgy with a choir of priests to Merbecke's setting. The Bishop sketched the history of the Early Renaissance, to which the building owed its chastened beauty; the age of his great predecessors, Hugh and Grosseteste, of St. Francis and the Friars, combining beauty with holiness, love, and knowledge. He traced the rise and fall of these qualities in the Second Renaissance and the German Reformation, the Tractarian Revival, and the more enlightened restoration of the present day.

The list of sanatoria approved by the Local Government Board under the National Insurance Act, 1911, for England and Wales has now been revised up to October 1, 1914, and a copy of the revised list of the sanatoria which have been approved by the Board under the Act for the treatment of persons suffering from tuberculosis and resident in England (excluding Monmouthshire) is being distributed for the information of County Councils, Town Councils and Metropolitan Borough Councils, and Urban and Rural District Councils in England (excluding Monmouthshire). With regard to Wales and Monmouthshire, under the provisions of Section 42 (1) of the National Insurance Act, 1913, sanatoria for the treatment of insured persons suffering from tuberculosis and resident in Wales (including Monmouthshire) are now subject to the approval of the Welsh Insurance Commissioners.

Messrs. Batsford will publish about the middle of this month a book entitled "Bruges: a Record and an Impression," by Mary Stratton, illustrated by Charles Wade. The book, which has been in preparation for some time, should be of exceptional interest at the present time, because Bruges is typical of all Belgium upon which the eyes of the civilised world are now focussed. The spirit of the men who built Bruges, who fought for its freedom, and sacrificed their lives in its defence, is the same spirit that has impelled the heroic resistance with which Belgium has met her latest invaders. Mr. Charles Wade, who has made the pen-and-ink drawings, over 100 in number, specially for Mr. Herbert Batsford, is an artist whose work, although not hitherto brought before the public, has attracted considerable attention amongst those privileged to see it. Mrs. Mary Stratton is well acquainted with Bruges. Her name will be familiar to many as the editor of "Fellowship Books" recently issued by the publishers.

WAR ITEMS.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, it is notified that information in regard to commercial and financial conditions and openings for British trade in Australia, South Africa, Canada, Ceylon, Sierra Leone, Trinidad, Jamaica, British Guiana, Portuguese East Africa, France, and Brazil, has been received at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C., where the detailed reports may be inspected by United Kingdom manufacturers and traders. A brief outline is given below of the nature of the information received from each of the sources indicated.

Australia.—H.M. Trade Commissioner at Melbourne reports (August 12) that the financial position of the country is strong, the gold coin held by the banks, the Treasury, and in private hands being estimated to exceed forty millions sterling. There is a tendency to restrict credit in trading to all but the first-class firms. The banks are not restricting overdrafts to approved firms, but where overdrafts have been given on stocks of wheat the holders are being asked by the banks to reduce their stocks. Some of the mines are taking steps to work short shifts, and some may close down. None of the public works in progress throughout the country is apparently being affected. In the retail drapery trade dulness is being complained of, and the activity in the building trade will probably fall off.

H.M. Trade Commissioner has furnished a detailed statement showing the value of the imports from Germany into the Commonwealth of Australia during 1913, which may be inspected at the Commercial Intelligence Branch.

The officer in charge of H.M. Trade Commissioner's Office in Sydney reports (August 19) that business is being executed much the same as usual, though there is a certain amount of anxiety and tension as to what is going to happen. A few wholesale houses, especially in soft goods, have cancelled orders given before war broke out, and the general feeling seems to be that for some time in the future the purchasing power of the public will be limited, and merchants are rather chary of carrying large stocks in consequence.

In the future there must be expected a severe check on the activity of the industrial and commercial community in Sydney, and money is bound to be scarce.

The Imperial Trade Correspondent at Adelaide writes (August 15) that British shippers of goods to Australia in British vessels, who have drawn against the documents, need have no fear about the draft being met, as the goods will represent even better value to the consignees now than they would under normal conditions. Imports are likely to continue, but on a restricted scale, as orders placed in future will be limited to absolute necessities.

Exports for the time being have ceased, as the extra war risk charged by the insurance companies is practically prohibitive. The wool sales have been postponed.

Canada.—The Imperial Trade Correspondent at Toronto reports (September 9) that financial conditions generally in Ontario are good. The chartered banks are in a strong position, and their managers state that legitimate borrowers will have no reason to complain of lack of credit facilities. There are signs, however, that the banks, as is perhaps natural under present disturbed conditions, will not grant loans for any great extension of factory operations, or for much new work of any nature.

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ENGLISH COTTAGES—WILLY LOTT'S HOUSE, FLATFORD.

While the general financial situation is good, there is an unmistakable spirit of economy on the part of the individual, the factory, the wholesale house, and public authorities. In the aggregate this means a reduced purchasing power for the time being at least, but at the same time it appears to be a good period for a close study of this market by those British houses desiring to do business now and in the future. British firms should in all cases quote strictly inclusive prices to Canadian buyers.

The Imperial Trade Correspondent has prepared memoranda in regard to probable openings for toys, chemicals, and drugs, which may be seen at the Commercial Intelligence Branch, as above.

South Africa.—His Majesty's Trade Commissioner reports (August 25) that there seems to be no doubt that British trade in South Africa will receive an enormous impetus as a result of the complications in Europe, although it may be acknowledged that the immediate prospects of trade are not of the best. There is considerable anxiety on the part of merchants with regard to stocks now on the water; but the effect of the moratorium in operation in the United Kingdom is that merchants fear that oversea manufacturers in all parts of the world will not be disposed to trade with the South African market so long as it is thought that payments for consignments are liable to be temporarily withheld in transit by the London banks.

The Trade Commissioner emphasises the importance of attention being paid to the following details of trade organisation by British manufacturers desirous of taking advantage of the extended possibilities of the South African market as a field for their enterprise:—

1. The need for local representation.

2. The enormous advantages that, as a rule, follow the visit of a principal to South Africa for the purpose of becoming intimately acquainted with local conditions of trade.

3. The necessity for meeting foreign competition by the supply of articles identical with those being exploited by our foreign competitors (*e.g.* enamelled ware, cheap musical instruments, cheap toys, &c.).

4. The adoption of an overhead charge in all cases where South African trade custom makes it necessary.

5. The study of packing, in order that handling, both on the part of the wholesaler and retailer, may be reduced to a minimum of labour with a maximum of convenience.

6. Sympathetic and generous treatment towards the local representative, and a strong endeavour to adjust the exporter's point of view to that of the South African merchant.

Ceylon.—The Collector of Customs has forwarded a statement showing the extent of the import and export trade of Ceylon done with Germany and Austria-Hungary respectively, together with a memorandum giving particulars of German and Austrian goods which find a ready sale in the Colony. The articles which may be most readily displaced by British goods are stated to be cotton and woollen made-up goods (undershirts, shawls, &c.) and hardware. The Collector of Customs mentions that there is no doubt that the success of the German trade in this Colony has been due to the comparative cheapness of the goods when compared with similar articles of British make. In the whole of the East cheapness is the main consideration of the purchaser, provided his taste as regards colour, design, &c., is flattered.

Sierra Leone, Trinidad, Jamaica, and British Guiana.—The Governors of these colonies have forwarded detailed statements containing statistics of the imports of German and Austrian goods into their respective colonies, and showing the extent of the export trade from the colonies to Germany and Austria-Hungary. This statement, as well as certain German invoices forwarded by the Governor of Jamaica, may also be inspected at the Commercial Intelligence Branch.

Portuguese East Africa.—His Majesty's Consul-General at Lourenço Marques reports (September 15) that German blue prints constitute the most important item of goods imported from Germany, measurements being 38, 32, and 28 inches, selling at 7*d.*, 6½*d.*, and 5*d.* per yard, with 6 per cent. added to cover cost of insurance, freight, &c. German firms are in the habit of granting 90, 120, and even 150 days' credit.

It is stated that manufacturers of railway material in the United States of America are anxious to obtain a footing in Portuguese East Africa.

France.—H.M. Consul at Lyons has made inquiries of the principal shopkeepers in his district with a view to ascertaining what classes of German goods sold in Lyons shops might be replaced by articles of British manufacture. Every facility for obtaining information of this nature was offered to H.M. Consul, who has forwarded a memorandum embodying the result of his in-

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vestigations. Among the various classes of goods of German manufacture which find a ready sale in Lyons are the following:—Leather goods, ironmongery, household decorations, clothing and hosiery, pottery, glass ornaments, clocks, wallpaper, linoleum, wicker chairs, umbrellas and sticks, photographic apparatus, jewellery, stationery, perfumery, cycle and motor accessories. H.M. Consul adds that the consensus of opinion is that the success of German manufacturers in France is largely due to the fact that their goods appeal to the masses, while English makers only consider the better-class buyers, who are far less numerous. They should also make an inferior quality article, for which there is undoubtedly a demand, and should adopt the German plan of stating prices of goods arrived at Lyons, including Customs duty and postage.

Brazil.—H.M. Consul at Pernambuco forwards (September 5) a report from which it appears that the political situation in the State of Pernambuco has remained calm, in spite of the financial crisis in Brazil and the disturbing influence of the European war, and there is reason to hope that tranquility will be maintained.

The following statement from the pamphlet issued by the Board of Trade Commercial Intelligence Branch, dealing with cast-iron goods (stoves, baths, &c.), shows for a recent year the value of cast-iron goods (such as stoves, baths, &c.) exported from Germany and Austria-Hungary to all destinations, so far as the particulars are available.

Exported from Germany (1912):—	£
Art castings and other fine castings not malleable	8,000
Economisers, worked	12,200
Cooking stoves, ovens, parts of ovens, &c., boilers for central heating, &c., worked	610,000
Cooking utensils, baths, lamps, and other iron wares, worked	1,578,100
Total	£2,208,300

Exported from Austria-Hungary (1913):—	
Wares of non-malleable cast iron with or without combining pieces of malleable iron or combined with wood:	
Rough or merely scoured ...	18,600
Otherwise ordinarily worked ...	3,850
Finely worked	10,800
Art castings and other fine non-malleable cast iron, with or without combining pieces of malleable iron or combined with wood	10,350
Total	£43,600

Comparative figures for the United Kingdom are not available.

The exports of cooking stoves, ovens, parts of ovens, &c., of cast iron were valued at £528,350. The principal markets to which these goods were sent in 1912 and the amount sent to each were as follows:—Netherlands (£82,700), Switzerland (£75,300), Italy (£61,100), Belgium (£52,500), Russia (£35,500), France (£34,700), Roumania (£24,200). The value of such exports sent to the United Kingdom amounted to £15,500, but exports to the British Dominions and Colonies were quite insignificant.

The remaining item—cooking utensils, baths, lamps, &c., of cast iron (worked)—is by far the most important to Germany, her exports to the markets specified in 1912 having been valued at £1,345,400.

The principal markets for these goods were the United Kingdom, Western Europe generally, and Switzerland, Italy, Russia, Dutch East Indies, Argentina, and Brazil.

A fair trade is done with a number of other countries, *e.g.*, Spain, Roumania, Turkey, Japan, Mexico, and Chile.

A noteworthy feature is the small trade done with the United States.

The aggregate value of the export trade (mostly German) in cast-iron wares which, in the present circumstances, might be diverted to British manufacturers would appear to be as follows:—

	In the United Kingdom Market £	In Colonial and Neutral Markets £
German Trade (1912):—		
Art castings and other fine castings	700	5,900
Economisers, worked	100	8,800
Cooking stoves, ovens, &c., worked	15,500	512,850
Cooking utensils, baths, &c., worked	96,000	1,249,400
Austrian Trade (1913):—		
Ware of non-malleable cast iron, &c.:—		
Rough or merely scoured	250	6,500
Otherwise ordinarily worked	—	2,950
Finely worked	—	10,350
Art castings, &c.	—	10,100
Total worked	£112,550	£1,806,850

thus making a grand total of £1,919,400.

Various authorities have suggested to the British Fire Prevention Committee that they should prepare some precautionary notice in the matter of fire dangers in hospitals and convalescent homes, much as they have issued earlier ones on various matters. For this reason a special "Warning" is now available gratuitously for hospitals and convalescent homes which are doing emergency work in connection with war cases, and copies will be provided free upon application to the British Fire Prevention Committee, 8 Waterloo Place, London, S.W.

The following statement from the pamphlet issued by the Commercial Intelligence Branch of the Board of Trade on Manufactures of Iron or Steel Wire shows for a recent year the value of the undermentioned descriptions of wire manufactures exported from Germany and Austria-Hungary respectively to all destinations.

Figures for the United Kingdom have been added for purposes of comparison.

Exports from Germany (1912):—	£
Wire rope; wire strands with textile cores	196,200
Wire netting and wire gauze of iron wire ...	315,100
Wire brooms, brushes, and baskets; boot irons (tips, heels, &c.); hooks not elsewhere specified; handles for boxes, &c.; wire springs; hooks and eyes	272,000
Total	£783,300

Exports from Austria-Hungary (1913):—	£
Wares of iron, rough or ordinarily worked:—	
Of wire 1.5 mm. or more thick	14,700
Of wire less than 1.5 mm. thick ...	3,300
Wares of wire finely painted, coated with zinc or tin	10,200
Wire cable of wire less than 1.5 mm. thick or finely painted, coated with tin or zinc	16,100
Wire wares otherwise finely worked, whether or not polished or nickelled; wire covered with textile threads ...	3,000
Total	£47,300

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Exports from United Kingdom (1913):—

	£
Wire cables and rope (except telegraph and telephone cables)	940,909
Wire netting (except torpedo nets) ..	440,200
Wire manufactures (other sorts)	72,300
Total	£1,453,400

It will be seen that the Austro-Hungarian exports of wire manufactures are insignificant compared with the exports of the other two countries, while the exports from the United Kingdom are nearly double those from Germany.

The aggregate value of the German and Austrian export trade in wire manufactures which under present circumstances might be diverted to British manufacturers may be summarised as follows:—

	In the United Kingdom Market. £	In Colonial and Neutral Markets. £
German trade (1912)	28,300	686,600
Austrian trade (1913)	110	40,700
	28,410	727,300

Thus making a grand total of £755,710.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received in the Board of Trade.

Russia.—H.M. Consul-General at Moscow reports (September 17) that, according to information received from a reliable source, the excitement which prevailed in Moscow when war was first declared has passed away, and the inhabitants have settled down to conduct their business in a normal fashion.

As regards manufactures, it is asserted that the mills and factories in Moscow are working quite normally, and as long as they continue to get the necessary raw material there is every prospect of their continuing to do so. Business concerns which do not depend upon the imports from abroad are as yet feeling very little of the consequences of the present conflict. There is no moratorium in Moscow, and business men maintain that there is no necessity for it. There is practically no dismissal of workpeople.

A great deal of the success of German manufacturers in the Russian market has accrued not so much from the efficiency of the representatives they have had on the spot, but has been in a very great measure the result of their own systematic organisation and the way in which they have tried to meet the whims and fancies of their customers; not only that, but the most go-ahead firms have sent out their catalogues and circulars printed in the Russian language, giving Russian prices, weights, and measures, and this always gives their offers a better chance to be considered than those submitted by firms in England and elsewhere, who supply their circulars and catalogues in a language unintelligible to the purchaser.

The report received from H.M. Consul deals more particularly with the methods which have contributed to the success of German manufacturers of various classes of textile and other machinery and engineering and electrical appliances, and mentions, among other articles which have been introduced extensively into Russia by the Germans, small engines and locomobiles, steam boilers and steam piping, heating and lighting apparatus, elevators and lifts, mining machinery, steam turbines and pumps, steam fittings, &c., steel goods, tool steel, wire ropes, electric lamps, woven and leather belting, paper-makers' felts and wires, &c.

The full report may be inspected by United Kingdom manufacturers and traders at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

Portugal.—H.M. Legation at Lisbon has forwarded (September 11) a report drawn up by the Secretary in Charge of Commercial Affairs, in which it is stated that in Portugal, even more than elsewhere, the partial resumption of commerce and its gradual restoration to a normal current and a new course, may be influenced to the advantage of British interests.

Austro-German trade with Portugal can for practical purposes be treated as German, the Austrian contributions being insignificant. German trade with Portugal has of late been developed until it has challenged our previous pre-eminence in every region of Portuguese commerce, and has in some cases changed it into a German predominance.

The report adds that high prices in Portugal, due to protection, caused a demand for cheap manufactures, and excessive production in Germany permitted a lowering of prices for surplus supplies; all the advantages of German business in Portugal have, however, been cancelled by the war conditions. The operations of the great German shipping lines are suspended until peace, and will be restricted probably for several years after.

The Secretary in Charge of Commercial Affairs has furnished a detailed review of German imports into Portugal in relation to British, which indicates the lines on which British firms are most likely to find openings due to the suspension of German supplies, and also serves to show the extent of the demand. Articles which seem to offer opportunities to British trade are: Cement, electrical supplies, machinery, pianos, sewing-machines, fishing nets, manufactured leather, porcelain, coloured glass, glass manufactures, copper, brass and bronze goods, paper, cordage, and cables.

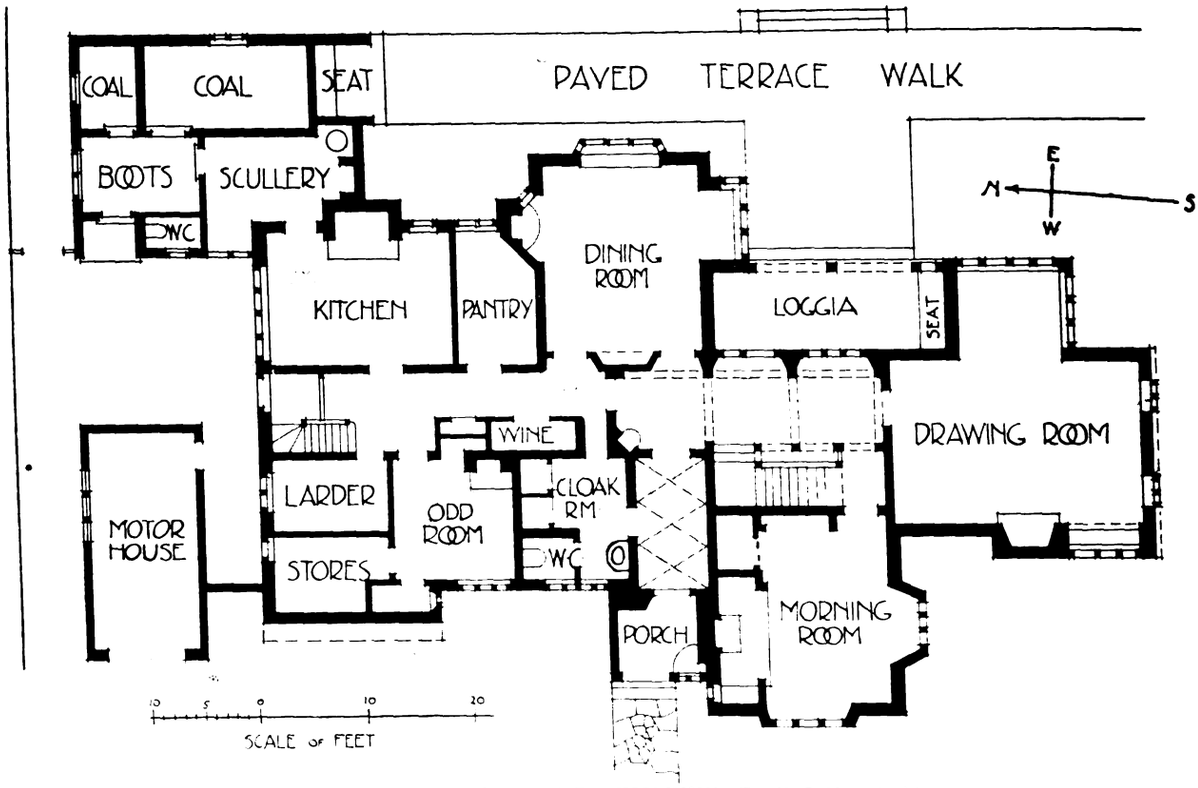
The full report and the statistical tables may be consulted at the Commercial Intelligence Branch of the Board of Trade, as above.

Australia.—H.M. Trade Commissioner reports (August 20) that there need be no anxiety as to payments of reasonable obligations contracted by known importers in the Commonwealth being regularly met. The leading business men regard the present situation with equanimity. The Federal Government will support the banks if necessary by giving facilities for an extension of the currency. It is anticipated that there will be a considerable falling-off in imports, especially of luxuries, and the rise in prices will inevitably restrict trade. In the textile trade there is likely to be a falling off in orders; as regards iron and steel and hardware, it is stated that in consequence of a 33⅓ per cent. increase in American freights on heavy metal manufactures there is an opportunity for British manufacturers to extend their trade.

No general statement can be made with regard to the placing of new orders for goods of any kind, but it is certain that the volume of the import trade will decrease. Apart from the dislocation due to the war, the outlook for the primary producers—the wool growers and wheat farmers—is not too bright, while the general export trade of the country is being seriously interfered with owing to war conditions. H.M. Trade Commissioner adds that if British manufacturers will systematically study the position he is of opinion that they can secure a large amount of trade formerly done by Germany. In this connection it is suggested that new firms wishing to enter the Australian market should instruct their representatives to call at the Trade Commissioner's Office (Commerce House, Melbourne), which will be glad to assist with information and advice.

New Zealand.—H.M. Trade Commissioner reports (August 19) that although the war at first caused some

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HOUSE IN HOLBROOK LANE, CHISLEHURST.—E. J. May, Architect.

panic in New Zealand and a large number of indents were cancelled, conditions have since improved. The financial position in the Dominion is strong; all the large importing firms are considered sound, and settlements are likely to be regularly maintained. Expenditure on the part of the public is likely to be considerably curtailed, and it is anticipated that retail firms and small dealers will feel the strain to a greater extent than the larger houses. The New Zealand Government has undertaken to carry on all public works on hand and to prevent unemployment as far as possible, and the people are being urged to make all efforts to re-establish trade within the Dominion and overseas.

There is a strong prejudice against German imports, and British manufacturers making prompt overtures should be able to do good business.

COMPETITION NEWS.

Canberra, Australia.—Owing to the state of war existing the Government of the Commonwealth of Australia has decided to postpone, until a more favourable time, the competition for the design of the Federal Parliament Houses to be built at Canberra. It was intended that the competition should be open to architects from all parts of the world, and that it should close in London and Melbourne during March 1915.

Doncaster.—The Corporation have decided to erect 102 houses upon land belonging to the Corporation, situated in Carr House-with-Elmfield, which would shortly form part of the borough, and to promote a competition, thrown open to the architects of England and Wales, for the development of about twenty acres of land in that parish, and forthwith to erect the houses on about four acres. It is suggested that the 102 houses should consist of the following: Six houses with six rooms: Parlour, living room, and scullery downstairs, three bedrooms upstairs, built in groups of three; estimated cost, £220 per house. Sixty-four houses with five rooms: Living room, scullery, and three bedrooms, built in groups of four; estimated cost, £180 per house. Thirty-two houses with four rooms, built in groups of four, estimated cost, £160 per house

Glasgow.—About fifty competitive preliminary designs have been received in connection with the Glasgow Corporation's offer of 400 guineas for a painting representing some Scottish historical subject, an incident or an epoch. The offer, it may be recalled, was made in celebration of the sex-centenary of the Battle of Bannockburn.

Glasgow. Owing to the war, the trustees of the Alexander Thomson Travelling Studentship of the Glasgow Institute of Architects have decided meantime to postpone the competition for one year. Students who were eligible this year, and have now gone on military duty, will be allowed to take part when the competition is held.

Oulton.—The Guardians of Mutford and Lothingland Union invite competitive plans of one of a series of cottage homes to be erected in the parish of Oulton (Suffolk). Particulars as to the approximate accommodation required may be obtained of Mr. F. W. Osborne, clerk, Crown Street Hall, Lowestoft. The architect submitting the plan adopted (if any) will be employed to prepare specifications, &c., and to supervise the carrying out of the work, and will receive the usual fees. Plans must reach the clerk by October 26.

Northampton.—Members of the Society of Architects are requested not to take part in the competition for workmen's dwellings, Hollowell, Northampton, without first ascertaining from the Secretary whether the conditions have been approved by the Society.

ILLUSTRATIONS.

HOUSE IN HOLBROOK LANE, CHISLEHURST.

This house is finished outside in cement whitewashed, and all the external and much of the internal woodwork is oak.

The general contractors were Messrs. T. Rider & Son. Wrought-iron casements by Mr. E. Goddard, of Vauxhall.

Mr. Laurence Turner made the lead gullies of the bays.

Several of the grates and the front door hinges were made by Mr. Lark, the local blacksmith, from the designs of Mr. E. J. May, F.R.I.B.A., the architect of the building.

ST. SAVIOUR'S HALL, HERNE HILL.

The building provides for the organisations of a fully equipped parish, of which the Rev. J. Bayfield Clark is the Vicar. It includes residences for parish workers, with a hall and classrooms for Sunday school and general meetings; men's institute, and girls' society, &c. The general contractor was Mr. F. J. Coxhead, of Leytonstone, and the architect was Professor Beresford Pite.

MALINES.

The picturesqueness of Malines, now so unhappily desolated, has seldom, if ever, been more adequately expressed than in the drawing by Samuel Prout which we now reproduce.

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R.I.B.A. EXAMINATIONS.

The designs submitted under Subject XVI. Problems in Design will be on view in the Gallery of the R.I.B.A. on October 12, 13, and 14 inclusive between the hours of 10 A.M. and 8 P.M.

SCHEMES FOR PUBLIC WORKS.

The following statement has been issued by the Local Government Board:

"The Government have urged upon local authorities the importance of mitigating the results of any dislocation of industry which may have occurred in the district of the local authority, by reason of the war, by expediting any scheme of work within the powers of the local authority. The Government have also recommended that the local authority should at once prepare a scheme of work should it appear that exceptional distress from want of employment is likely to arise in their area. The information in the possession of the Local Government Board indicates that the local authorities have responded with readiness to the suggestions made by the Government.

"It has been ascertained that during the period between August 4 and September 21 over 600 applications have been made by local authorities in England and Wales (not being Poor-law authorities) for the sanction of the Local Government Board to the borrowing of money with which to defray the cost of some scheme adopted by the local authority. The total amount of the loans desired exceeded £2,500,000. Of these applications forty-five related to loans for the erection of dwelling-houses for the working-classes at a total cost of £512,000.

"The Local Government Board have also taken special steps to expedite the consideration of applications for their sanction to loans. During the period between August 4 last and September 21 the Board have sanctioned loans desired by local authorities in England and Wales, other than Poor-Law authorities, to the extent of over £3,500,000, as compared with about £1,928,000 sanctioned during the corresponding period of the year 1913. The increase thus shown exceeds 80 per cent.

"Included in the sum of £3,500,000 above mentioned were loans to the extent of £332,000 in respect of the cost of schemes prepared by sixty local authorities for the erection of dwelling-houses for the working classes. It may also be mentioned that a number of local authorities in districts at present free from abnormal distress have in preparation schemes which will be available for the provision of work should the necessity arise.

"The Road Board are also rendering valuable assistance to the local authorities of areas in which exceptional distress from want of employment exists. Three large schemes for the construction of new roads, including the new western approach road to London, had been arranged with the local authorities before the outbreak of war. These schemes will be put in hand at an early date. In addition, the Road Board have arranged to make grants to an aggregate amount of nearly £450,000 towards works of new road construction and road improvement in many parts of the country, which will involve a total expenditure of about £1,000,000.

"These grants will be spread over eighty-one local authorities, and preparations have been made for proceeding with work in each case immediately any exceptional distress from want of employment arises in any of those areas. In regard to thirty-six areas, the Road Board have already arranged, in consultation with the Local Government Board, that road improvement works estimated to cost £203,000, towards which the Road Board are making grants of £85,000, are to be commenced at once.

"The Development Commissioners have also under consideration some schemes relating to the construction of light railways, the improvement of the navigation of rivers, and other works, in order that work of this character may be ready in case a need for providing further employment should arise.

"In connection with unemployment amongst women, it is well known that a number of trades in which women are usually employed have suffered severely as a result of the war. The question of dealing with this problem has been remitted to the Central Committee on Women's Employment, and a special fund inaugurated by her Majesty the Queen has been raised. The amount already exceeds £60,000, and is being utilised in establishing workrooms, in training women and girls, and in experiments in the creation of new industries."

CONCRETE: ITS FORMATION, CONDUCT, AND DISINTEGRATION.

Written and Illustrated by James Scott.

The disintegration of concrete is a subject that has received too little attention from those people who are most concerned with it. Theoretically, concrete is a sound, reliable and durable substance; practically, it is liable to very serious defects, which may lead to its final destruction.

Before we can properly and fully understand the course of events which I am about to describe, it will be advisable to deal with the description and illustration of matters directly affecting the composition, consolidation, and stability of concrete.

Concrete, as the reader knows, is a mixture of Portland cement and "aggregate," the latter consisting of either crushed stones and pebbles or sand grains.

Portland cement—the real basis of concrete—consists of a well-calcined combination of lime and clay, resulting in the production of calcium silicates and calcium aluminates.

By the way, the word "calcium" is the technical synonym for lime. I will henceforth use chiefly the name lime, as it is undoubtedly far better understood than the first-mentioned. At the same time, we cannot altogether avoid that of calcium.

Calcium silicate is a compound of lime and silica. The latter is best typified by quartz, flint, and sand, and is an oxide of silicon, a very abundant element, yet one which has seldom been isolated. Silica is ordinarily insoluble, but when fused with certain alkalies it is capable of being gelatinised. When the clay and lime are being burnt the silica of the former combines with the latter and makes lime silicate—*i.e.*, calcium silicate.

The "waterglass" jelly used for the preservation of eggs is a silicate of soda, prepared by strongly heating sand and soda together. A similar jelly is obtainable when potash is substituted for the soda. These facts have a bearing on our subject.

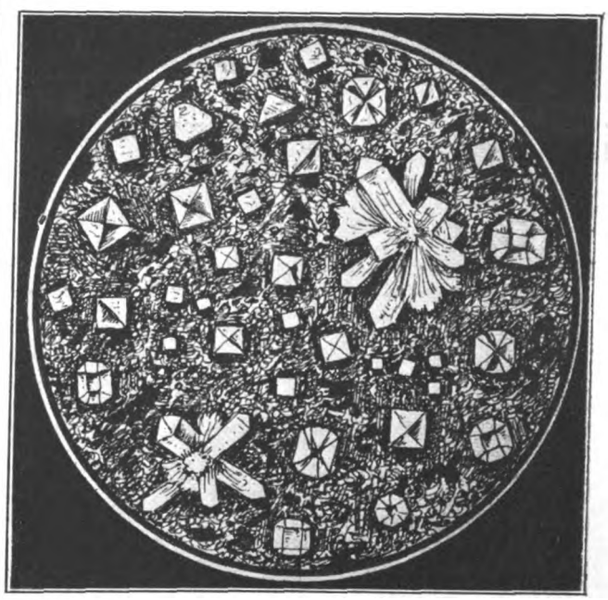


Fig. 1.—A minute view (¹⁄₁₀in. diameter) of concrete broken down by the combination of sulphuric acid with the aluminate, thereby forming crystals of alum

Clay is a silicate of alumina, and consists essentially of silica and aluminium. When clay is treated with sulphuric acid it yields aluminium sulphate and potash sulphate—*i.e.*, common alum—and silica (see fig. 1). The colours of various clays are due to staining by metallic oxides, &c. Colourless clay is the best—*e.g.*, china clay or kaolin.

Alumina is the earth or basis of clay, and when quite pure is white. It is an oxide of aluminium, thus being really a combination of the metal and the gas oxygen. It is found native as corundum, emery, and the precious stones rubies and sapphires, these being coloured by other metallic silicates.

Very pure alum is obtainable from alumina by heating the latter—or else china clay—and then submitting it to the action of dilute sulphuric acid for some weeks. Sulphate of alumina (the best alum) will then be found in the solu-

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tion, while silica will exist as a deposit. This alum will not contain any potash.

When lime and clay are burnt, the various ingredients—alum, lime, silica, and so forth—melt and run into one another, thereby forming curious clinkers. These are then crushed, and have to undergo either a dry or wet process of pulverisation. There is no space to go into details concerning these operations, but the result is the production of the powder known as Portland cement.

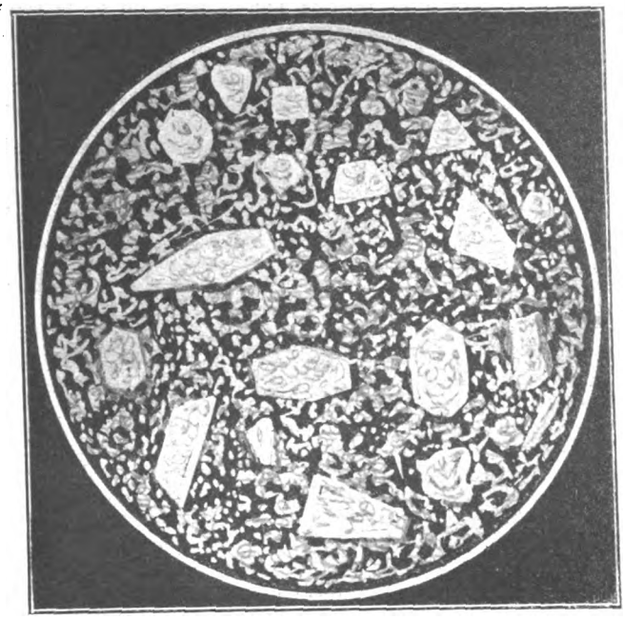


Fig. 2.—A minute portion ($\frac{1}{25}$in. diameter) of Portland cement, magnified; showing its semi-crystalline appearance When water comes into contact with these grains their composition is altered.

Upon examining some of this substance through the microscope it appears as shown in fig. 2, some of it being crystalline, while the remainder is amorphous.

When the cement is watered and stirred up very remarkable changes occur. The chemist uses the term "hydrated" for the adding of water, so the reader will understand that when hydration is referred to it means simply that water has been added to the cement.

Wetted Portland cement undergoes several remarkable chemical changes. Some of the lime and alumina combine together to make tri-calcium aluminate, which crystallises in the form of small hexagonally-shaped tablets. Simultaneously a proportion of the remaining lime unites with available silica to compose mono-calcium silicate, which develops as small needle-shaped crystals.

A quantity of lime and silica amalgamate to produce gelatinous mono-silicate.

The rest of the lime forms large hexagonal tablets of calcium hydroxide, which may be interpreted as slaked lime.

It should be understood that the terms small and large in relation to the crystals do not mean that they are small and large in the ordinary way, but microscopically. The whole of them are small when viewed with the naked eye, but, comparatively speaking, many of them are large, through the microscope, when seen side by side with others. I dare-say that the reader will know what is meant.

The particles of "aggregate" do not have much influence on the disintegration of concrete, since they are very insoluble in the ordinary chemical solutions with which they are likely to meet. At the same time their density and heaviness are such that when once the surrounding cement had been crumbled they would tend to slip through it and thus force it apart.

The setting process of the cement of concrete is thus one of crystallisation, the individual particles being invisible until magnified. These crystals interlock together, while the mineral jelly—the mono-calcium silicate—produced by the chemical reactions percolates into the myriads of interstices. Under the microscope the cement surface of concrete looks quite porous and granular, and it is somewhat difficult to trace the crystalline structure, which, however, can be ascertained by other means.

Hardening is due to the solidification of the jelly-like calcium silicate, which stiffens throughout the mass like a kind of glassy glue. This transparent siliceous jelly forms very peculiar patterns if the cement is simply lain (not stirred) in a drop of water on a glass slide. Some of it is shown in fig. 3. This fact proves that when the plastic mass of concrete is insufficiently mixed the gelatinous, agglutinising substance is irregularly disposed of, so that too much of it may lie in some places and too little in others. In this way certain areas would be liable to crumble and chipping might occur elsewhere.

The hardening process continues as long as the treated lime, silica, and water are in contact with each other.

The presence of iron oxide—the familiar rust of the metal—which may be derived from the rods in ferro-concrete, &c., has no particular influence on concrete. It forms either tri-calcium ferrite or ferrous silicate.

One of the principal factors helping to occasion a defective concrete is the existence of air cavities. These may not be large, but whatever their smallness is they considerably weaken the structural integrity of the whole mass. Their presence allows minute drops of moisture to be squeezed into them, instead of passing out from the setting and hardening substance. Their retention assists the attacking forces in their evil work. For this reason it is always advisable that concrete should be thoroughly well mixed and carefully applied, otherwise it may "give" internally, owing to these voids, and cause the development of unsightly and dangerous cracks in the structure.

Seeing that I shall have to refer to the acids of peat it will be necessary to briefly describe it. Peat consists chiefly of the decomposing tufts of the interesting mosses belonging to the genera *Sphagnum* and *Hypnum*. Other plants naturally contribute to the common bulk, but the characteristic features are those which have just been mentioned.

The flat cells, each composed practically of merely a double membrane, are occupied by coiled fibres. These keep the cells distended, so that they serve as reservoirs and as strainers for various juices and solutions which the vegetation produces, or comes into contact with.

Peat yields humic acid, and this in conjunction with the organic acids formed by other plants acts on concrete which has been built into soils containing it.



Fig. 3.—A minute portion ($\frac{1}{25}$in. diameter) of the silicate of moistened Portland cement, magnified. It is this evolved substance that causes it to set and harden.

The principal causes of damage to concrete appear to be due to attacks by sulphuric acid, the latter having been engendered through the medium of the decomposition of substances rich in sulphur. Drains laid in concrete suffer to a very great extent; while structural works exposed for long periods to the smoke-laden atmosphere of industrial towns also show signs of mischievous influences.

It will repay us to briefly outline the manner in which the sulphuric acid accumulates. If the reader will burn some sulphur in a spoon, and lay it under a large glass jar, beneath which stands an egg-cup full of water, he will find that the fumes will be soaked up and render the

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water distinctly acid. In reality, the liquid will be changed from plain water to sulphurous acid. Note the "ous" in the name, as it is important. Note also the "ic" later on.

The fumes of burning sulphur are known as sulphur-dioxide, or, more technically, as sulphurous anhydride; and when they are absorbed by the water the latter becomes sulphurous acid, which is as clear and white as water itself. This acid retains the familiar, suffocating sulphur stench.

Sulphurous acid is capable of taking up a further quantity of oxygen, which changes it into sulphuric acid. The latter is far more powerful than the former, and has no odour.

Sulphurous acid combines with various substances to compose the sulphites, whereas sulphuric acid yields instead the sulphates, with the same bases. It is well to remember that the sulphites may be changed, by means of oxygen, into the sulphates.

Sulphuric acid is sticky to the touch, although it does not act so in relation to the substances with which it comes into contact. When contained in a bottle it darkens after a while, and this browning or blackening often shows itself in concrete that has been badly attacked by it.

Sulphuric acid attracts moisture to itself, and constantly increases in bulk, while losing its strength. This conduct would be favourable to exposed concrete, especially in damp weather, because by becoming diluted its evil power would be lessened.

It has been found that one source of sulphur is from the pyrites (iron sulphite) which occurs in many soils. In the event of drains having been laid and concreted in such situations, the iron and sulphurous acid are separated, thereby leaving the latter available to attack the lime of the cement. This it would do in the manner explained elsewhere.

Pyrites is brassy in colour, and is crystalline, as shown in fig. 4. It may be found in coal very frequently.

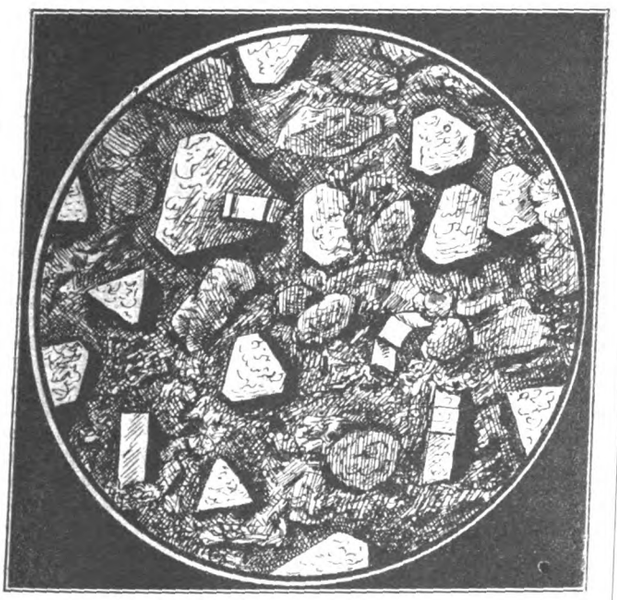


Fig. 4.—A minute portion ($\frac{1}{32}$in. diameter) of pyrites (the triangular crystals) in soil. The oblongs are end views of the crystals.

Decaying matters in sewers evolve the stinking gas sulphuretted hydrogen, which is known also as hydrogen sulphide and hydric sulphide. When the hydrogen is removed, sulphur itself is deposited, and this is oxidisable to sulphurous acid, and thence to sulphuric acid, ready to combine with the cement-lime to bring about sulphate of lime (see fig. 5).

Many sewer and kindred bacteria are capable of extracting the sulphur from decomposing substances, and enabling it to finally oxidise to sulphuric acid.

The crystalline salt sulphate of ammonia is derivable from soot and coal-smoke to the extent of about 4 per cent. When in the air it is relieved of its ammonia, thus leaving its sulphur constituent free to combine with the minute globules of vapour that may be present. Weather which is extremely sunny and hot, while fleecy clouds float in the heavens, is especially suitable for causing the sulphur substance of smoke and soot to gasify. The gas is then readily absorbed by the vapour, and converts the latter into sulphurous acid, which further heat will oxidise into sulphuric acid.

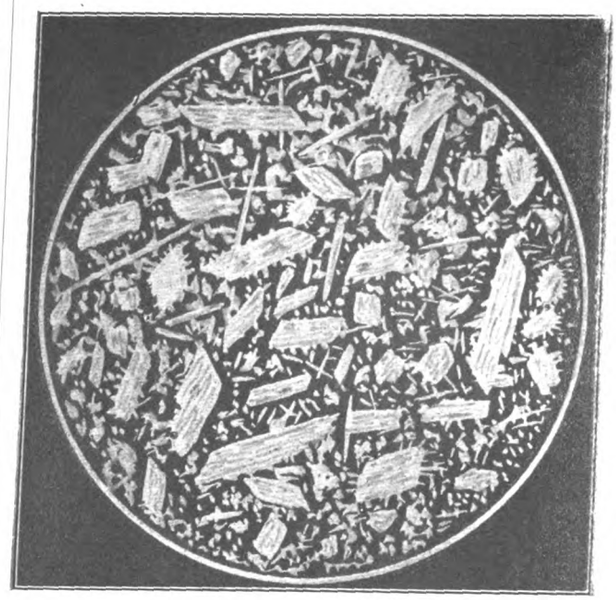


Fig. 5.—A minute portion ($\frac{1}{32}$in. diameter) of Portland cement reduced to crumbling sulphate of lime in concrete, magnified.

This, descending as minute droplets upon exposed concrete, will soon commence attacking the lime present, and by forming sulphate of lime cause the cement to crumble, and thus weaken the whole mass. Once started, the mischief would spread.

The sulphuric acid globules of any one period may be too small to see, as also might the resulting damage; but the continual repetition of such a process would eventually make the disintegration conspicuous.

There is always the danger, however, that any minute crevices formed by the action of the acid would attract other quantities as they were evolved, and these would soak down into the concealed parts and produce larger and dangerous fractures.

When sulphuric acid comes into contact with lime, it causes a hissing or effervescence.

Lime sulphate is insoluble in water to a large extent, although not wholly so. It crystallises in various minute forms, the commonest of which is undoubtedly that shown in fig. 5. After lying in water for a few hours, however, some of it will dissolve into minuter and more regular forms. These microscopical crystallisations are taken too little notice of by the general run of technical people.

The sulphites and bi-sulphites of lime are very similar to one another, but the latter have more acid than the former. They, however, behave similarly. The microscopical action of the bi-sulphite is depicted in fig. 6. It is first in a fluid condition, containing normally invisible geometrical crystals. After this substance has been exposed to the air for a few moments it produces a most beautiful crust. At various points on its surface tiny discs arise, each marked with fine radial lines, and taking as its nucleus one of the crystals already mentioned.

Each disc increases in diameter, unless neighbours prevent it doing so, and finally there exists a compact mass of them, owing to mutual contact. These apparent discs are, in reality, spheres. In forming, minute slender needles concentrate round a crystal nucleus and radiate from it in every direction. Whatever view we take of them, they appear disc-like.

These objects are compounds of lime with the available carbonic acid gas, whcih would be plentiful in drains, and in town and many other atmospheres. Thus the sulphite changes into the insoluble carbonate of lime, which would be very finely friable. Any such operations going on in concrete would reduce a large proportion of it to fine powder.

Dry weather concentrates any chemical solutions, or salts, that have been evolved, so that they become extremely strong. There would, in consequence, be an alternating

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series of corrosions, dilutions, crumblings, and washings away.

A test for sulphites may be made with any strong acid, which, when poured upon one of them, immediately decomposes it, and sets free the smell of burning sulphur—i.e., sulphur dioxide or sulphurous anhydride.

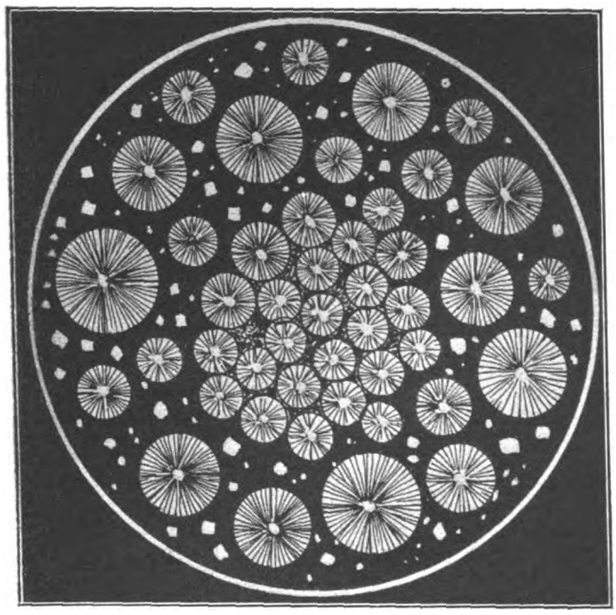


Fig. 6.—A minute portion ($\frac{1}{4}$in. diameter) of lime bi-sulphite solution crystallising over its surface. The rosettes amalgamate solidly together. Sulphites change into sulphates.

Suppose it is suspected that sulphurous matters are gaining access to some of the concrete. A little of the latter should be scraped off and placed in a test tube. Then an acid should be poured over it. In the event of the smell of sulphur being detectable, the experimentor can safely conclude that a source of sulphur-laden substance is not far away. It may sometimes be necessary to slightly heat the test tube.

It is possible, as I have proved, that the sulphuric acid produced by chemical reactions in drains or elsewhere can attack the aluminate of the cement and cause the existence of sulphate of alumina, or crude alum. In fig. 1 is depicted the outcome of such a series of changes. The alum, being soluble, is readily washed out, and thus leaves the concrete weakened to a very serious extent.

In peaty soils lime sulphate is quite common, and the humic acid which appears as the result of the decomposing masses, as well as other organic acids, often drives out the sulphuric acid from the sulphate, and itself combines with the lime, thereby leaving the sulphuric acid free to seize on the particles of lime in the cement. Foundations often suffer in this manner.

It is rather difficult to trace the various changes described, but I have undertaken the subject direct, having experimented with concrete, cement, and acids for a rather lengthy period.

THE WAR AND THE ARTISTIC CRAFTS.

People's minds are so full of the war that it seems, perhaps, almost out of place to write about art, says a correspondent of the "Journal" of the Royal Society of Arts. And yet there is a very real connection between the present European upheaval and the future of British craftsmanship, and more especially of British applied art. If we do not begin to consider the subject now, the end of the war will find us all unprepared to meet the situation which has arisen and to profit by the opportunity which lies before us. If we are to do this we must try to view the subject in its just proportions, and to avoid mistaking unimportant side issues for the main point. Although it is undoubtedly true that at the present moment several British industries would be in a much more favourable position than they are had it not become the habit to rely upon Germany for that chemical knowledge which, with a little encouragement, could have been easily obtained over here, that simply goes to show that it is not altogether wise to allow chemical and other industries on which many other trades are dependent to fall entirely into the hands of foreigners, more particularly into those of any one foreign nation. It does not prove, as some people are inclined to think, that the duty of a nation is to supply all its own needs, and to place no reliance whatever on foreign producers for any manufactured commodities. Indeed, events so far have demonstrated that, with a sufficiently large fleet, a reasonable exchange of wares can be maintained even in time of war, and that such exchange tends to facilitate both commercial and financial business. Therefore, though it is quite possible that, owing to the failure of supplies from other lands, this may be a favourable moment for developing certain cottage and home industries, such as basket-making and toy-making, and perhaps even to introduce certain new ones, it will be a great mistake if the mass of people comes to think that, from the point of view of applied art, the opportunity which lies before us is chiefly one of an extension of arts and crafts and home arts and industries. In this connection we have to bear in mind that the war will have to be paid for, and that many normally well-off people may be quite unable to afford to pay a remunerative price for ordinary "handiwork," to say nothing of the productions of artist-craftsmanship, for some time to come. Hand-made lace, artistic jewellery, elaborately tooled bookbindings, for example, are in the nature of luxuries, which many of those who habitually indulge in them will feel that they cannot now afford. Even in the case of products which may be regarded more or less as necessities, the question of price is always of some importance. In times like these it is often the determining factor, and hand-woven fabrics and the like, superior as they are, cannot in the nature of things compete with machine-made goods in the matter of price. It would seem, then, that the artistic handicrafts at least are hardly likely to benefit by the present state of affairs. What of the other branches of Applied Art?

It is, of course, obvious that many trades have been considerably disorganised by the war. That would have been inevitable in any case, and the situation has not been made better by the fact that many of the dyes and colours used in the textile and other trades are supplied under normal conditions by Germany. On the other hand, it is being said on all sides that there is a splendid opportunity for supplying markets which have hitherto been mainly dependent on Germany and Austria, and generally for extending our trade. But, as some of the wiser daily papers have pointed out, we have not an entirely clear field, and our success in selling our wares will depend in no small measure on their quality and their attractiveness. The proportion of the trade of the world which we shall be able to "capture" is not a fixed quantity. It is only by putting our shoulders to the wheel and offering of our best that the confidently expected "boom" can be secured. In many trades this is not a purely commercial matter, with little or no relation to art. Into the production of printed and woven textiles (whether of silk, cotton, or wool), wallpapers, china and earthenware of all kinds, metalwork (in silver and gold as well as brass, iron, and copper), there enters the consideration of art. Manufacturers may be unwilling to realise its importance, art students, bitten with the desire to make things themselves, may scorn to work for manufacture, but the success of a certain type of trade depends in no small measure on the freshness and the attractiveness of its design. It is of no use, for instance, offering people textiles, however well woven or well printed, if their colouring is muddy and their design dull; and the level of design in England to-day is not very high. Everyone seems to have been agreed on that point for some time past, and everyone has blamed that section of the community to which he does not himself belong. It is, says the designer, the fault of the manufacturer, who has no real soul for art, and still more of the middleman, whose taste is positively bad. On the contrary, says the manufacturer, the blame belongs to the artist, who pays no heed to trade requirements and grumbles at being fettered by the technical processes of manufacture. The trouble, says the artist-craftsman, is that our whole industrial system is wrong. Each man should live by the labour of his own hands, producing by the sweat of his brow not an infinitesimal portion of something, but a complete work of art. The art masters and the various educational authorities have all their theories as to what is wrong, and they all appear to start from the point of view of asking what ideally would be right. The net result so far seems to have been that, though there is machinery, both national and local, for dealing with the teaching of design and craftsmanship, comparatively little

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is being done in the way of improving the standard of design in our large and important industries.

So many strange partnerships have been formed by the stress of the last few weeks that it is perhaps not altogether Utopian to hope that, in view of the state of affairs confronting us, people from the different camps should try to work together, taking as a starting-point not what under ideal conditions would be desirable, but what under existing circumstances is possible. Designers, manufacturers, and artist-craftsmen are all of them going through a difficult time, and, no less than art students and the rest of the world, are roused to unwonted feelings of patriotism. Surely now is the time for all of them to realise that what they have to do is not so much on the one hand to endeavour to protect their own individual artistic souls (if they happen to have them), nor on the other to claim for trade considerations the right to override completely the claims of art, but to try honestly to discover how they can best serve the common cause. There may be a great fascination about making some one thing all yourself, but the industrial importance of so doing is very small compared with that of producing a design which may penetrate into every corner of the globe. Is it not at least possible that the dulness of a good deal of modern English design is due to the fact that the glamour of the craft idea takes hold of the cleverest of our students at their most impressionable age? It presents itself to them, sometimes is deliberately presented to them by those in authority, as a gospel—the only gospel—to believe and follow, before their minds are quite capable of seeing that other ideals are possible. No one nowadays doubts the dignity of craftsmanship, but there is a dignity, sometimes overlooked, about design too. "Paper designers," as they are sometimes contemptuously called, are not all hacks, nor do they of necessity sell their souls. Those of them who have succeeded have done so largely because they were strong, vigorous men, capable of holding their own and of moulding circumstances rather than allowing themselves to be moulded by them, and they have had not only a wider but a deeper influence than people who have never seen behind the scenes realise. Their work has gone forth to many lands, and though their fame has been comparatively small, they have had some measure of recognition. Further, it is not as the maker of some one thing that a man's real influence is spread. If William Morris, for instance, had not made designs for cretonnes which were within the means of ordinary folk and could be repeated over and over again, his artistic reputation would hardly have been as great as it is to-day. Is it too much to say that had they been roller instead of block printed it might possibly have been still greater? If the rising generation of designers could be made to realise all this they would probably chafe less at the restrictions imposed upon them by the machine, and set about seeing how they could turn them to good account. As to the manufacturers, they doubtless have their faults, which many people are ready and willing to point out to them, but they are not all of them ogres or even machines. Some of them want to do good work for its own sake, and there are surely few who are not anxious at the present moment to increase their trade. The wisest of them will realise that to do that effectively they cannot afford to ignore the claims of art.

STRESS DISTRIBUTION IN MATERIALS.*

(Concluded from last week.)

It is a matter of some difficulty to arrange apparatus to stress a specimen in the direction of the incident beam, and at the same time observe the optical effect free from disturbing causes, since a transparent medium must be interposed for applying the required load, and this will be subject to stresses which may interfere with the optical effect on the specimen.

Some observations on circular plates clamped at the edges and uniformly loaded over one face, showed that the bending stresses produced in the plate caused very little optical effect, since the tension and compression stresses neutralised one another, while the shear effects also appeared to be practically negligible. The only remaining stresses of importance were those caused by the clamping plates at the boundary, which produced radial and circumferential stresses having circular symmetry, and as the optical effects of these latter disappeared at a small distance from the edge, a field of view was obtained in which the optical effects of load applied perpendicularly to the plate were quite small, even when the internal stresses were very great.

Two circular plates clamped together to enclose a space between them may therefore be used as windows for observing the effect of a uniform pressure upon a transparent specimen, which latter may be a plate with its faces parallel to the end plates closing the chamber. If cubical compression is applied by a fluid, the principal stresses in the plane of the plate produce opposing optical effects, and any remaining effect is due to perpendicular pressures on the faces. The arrangement of experimental apparatus, therefore, took the form of a pair of transparent windows separated by an annular disc, and firmly clamped together by collars. The central chamber so formed was subjected to pressure of air, or other fluid, up to about one thousand pounds per square inch, and afterwards the specimen was introduced and the same pressure applied; but no visible change of effect could be observed. Finally, the specimen was set in the field of view outside the chamber, and pressure again applied by the fluid, but still no change was apparent. In all three cases the optical effects produced were small, and practically alike, so that the experimental evidence appears to warrant the conclusion that a principal stress in the direction of an incident beam of polarised light has no optical effect in a thin plate, or at any rate is so small that it may be neglected.

That the retardation between the ordinary and extraordinary rays is proportional to the stress difference perpendicular to the incident beam within the elastic limit of the material may, therefore, be taken as reasonably accurate, although future research may show that it is only an approximation or even that it is more accurate to commence from a fundamental strain equation; but according to present knowledge there appears to be no warrant for such a procedure.

A more pressing difficulty arises with regard to the optical constant connecting the wave-length retardation with the stress difference. The recent researches of Filon on glass show that the value of this constant is curiously dependent on the previous history of the material, especially as regards its heat treatment. Until further knowledge is gained on this matter it appears to be necessary to guard against errors in stress measurement from this cause by a careful selection and treatment of the material used, since for other artificial bodies we may find that the variation in the constant is not less in magnitude, and is at least as complex as in glass. In some instances the stress optical coefficient may be dispensed with, and Filon has shown, in cases where a theory of stress distribution has been worked out and it is desired to compare it with the results of optical measurements, that the isoclinic lines offer many advantages, since they are independent of photo-elastic constants, and the material need only be subjected to small stresses.

The experimental analysis of stress distribution in a body depends on the possibility of finding the magnitudes and directions of the principal stresses at every point, and in practice it is found the simplest plan to determine the directions of stress from the lines of equal inclination obtained in plane polarised light, and to measure the stress difference by comparison with a wave-length standard, such as a Babinet compensator, or by comparison with a simple tension member set along one of the lines of principal stress, and loaded until the total effect produced is a dark field denoting a zero value. The difference of the principal stresses is then measured in terms of a simple tension. This alone is insufficient to determine the distribution, unless one of the principal stresses is zero, and, in general, another independent measure must be obtained. This is very conveniently supplied by the change in the lateral dimensions of the plate under stress, since this change may be taken, in the absence of a third principal stress, as proportional to the generalised sum of the principal stresses throughout the thickness.

The determination of the lateral strains in a comparatively thin plate, forming part of a model of a machine or structure, necessitates measurements of extremely minute linear quantities. If, for example, a plate of xylonite is taken, of the maximum thickness obtainable for optical work, a simple calculation shows that these strains must be measured to an accuracy of one or two millionths of an

* An address to the Engineering Section of the meeting in Australia of the British Association for the Advancement of Science, by Professor E. G. Coker, M.A., D.Sc., M.Inst.C.E., President of the Section.

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inch. Several instruments have been designed and constructed for this purpose, to fulfil conditions which appear to be essential for successful use. It is necessary to avoid all chance of injury to the surface of a transparent material, so that the measuring points of an instrument can only be pressed lightly against the surfaces, and the weight must, therefore, be supported independently of the model. In instruments so far constructed the measuring mechanism is carried on a U-shaped frame, for convenience of movement from point to point of the specimen. One measuring needle is secured and operated by a calibrating screw, and the other is free to move a multiplying lever system, and thereby tilt a mirror to give an angular deflection, which latter is calibrated by reference to the standard screw when the instrument has been finally secured in place. In recent work the labour of accurately setting the instrument in a number of different positions has proved so great that my assistant, Mr. F. H. Withycombe, has designed a useful adjunct in the form of a mechanical slide-rest to effect the required changes easily and expeditiously. In one arrangement a bracket carries the measuring instrument on a three-point support, and movement is effected by slides arranged to give displacements along three axes at right angles, and their amounts are measured by micrometer screws to an accuracy of rather less than one-thousandth of an inch.

These methods of stress determination avoid the difficulties of the Clerk-Maxwell analysis, which necessitates the determination of the equations to both families of isochromatic and isoclinic bands, usually a mathematical problem of considerable complexity. In some simple cases Mr. Scoble and I have verified the accuracy of the method of lateral measurements for determining the sum of the principal stresses, by comparing the calculated stresses with the experimental values obtained in a plate of transparent material. We have lately carried these experiments a stage further, and have shown that the measured sums of the principal stresses in steel agree with the calculated values. This experimental solution, in fact, gives the stress at a point in a plate, if the conditions are those assumed by the mathematical case of a plate where generalised equations of stress apply.

It is at once obvious, if the utility of experiments on models of this kind is admitted, that experimental evidence is available on a variety of practical engineering problems covering a very wide field of practice, not merely qualitative, but quantitative, and approximating to the needs of the physicist and mathematician, and well within the known variations of the materials with which the engineer has to deal in his daily practice.

During the last few years much attention has been paid to the determination of the stresses in structural elements of primary importance, but only a small number of cases have been examined, since even the simplest problems have proved somewhat difficult, and much time and labour have been spent in perfecting optical and mechanical appliances to suit the special conditions required for investigations on transparent models. A simple example of a case easily examined and of practical importance is that of a tension member subjected to an eccentric load. The optical effects here show a linear distribution of stress due to the combination of direct pull and bending, while the neutral axis moves towards the tension side as the stress increases. Not only can these effects be measured, but if the specimen begins to fail some indication is obtained of the way in which the stress distribution is changed to meet the new conditions, and there is found a tendency to an equalisation of the maximum stress at the boundary, although at present the form of the curve of distribution beyond the elastic limit is largely conjectural.

A case like that of a very short member subjected to direct compression is also not without interest, partly because it reveals unexpected difficulties. In the first place, it is not easy to apply a pure compression stress, and if the surfaces in contact are not of the same materials it appears to be practically impossible, since the lateral changes are unlike, and shear stress is therefore produced at the plane of the surfaces in contact. In a short member this shear has a very important influence, and by interposing a thin layer of a material, such as indiarubber, between the pressure plates and the short transparent block, the artificial shear effect produced by the indiarubber is easily shown to influence the distribution throughout, and to increase the stress in a very marked way. Experiments on transparent materials show that the increase of stress may be 20 per cent. or even more. Such an effect is known to take place when cubes of stone are crushed between lead plates, and optical investigations on models have enabled a quantitative measure of the effect to be ascertained in this and other cases, thereby confirming the theoretical investigations of Filon on the distribution of stress in such members under various practical systems of loading.

The local effects produced near the points of application of a load are usually of considerable importance, and their influence on the stress distribution in beams has been examined by Carus-Wilson.

The stress effects produced by discontinuities in materials is also of considerable interest, and the cases arising from the necessities of construction are infinite in their variety.

The practical importance of an accurate knowledge of the change in stress distribution produced by changes of section in a member is so thoroughly appreciated that it needs no insistence, and it has received much attention from a mathematical point of view. Thus the local effect of a spherical cavity in a member subjected to uniform tension or compression load has been shown by Love to double the intensity very nearly, while Kirsch has shown that a small cylindrical hole in a tension member trebles the stress intensity. If the hole is elliptical the increase of stress may be still greater, and Inglis has shown, among other interesting cases, that if the minor axis of the ellipse is parallel to the direction of the applied load in a tension member, the stress intensity is increased by an amount measured by twice the ratio of the axis of the ellipse.

A crack, considered as the limiting case of an elliptical hole, is thus seen to give extremely great stresses at the ends, tending towards infinite values for an extremely fine crack.

Optical experiments afford an independent means of examining the alterations of stress intensity produced by discontinuities, and the results are found to agree remarkably well with those obtained from the theory of elasticity. The stress at the boundary of a small cylindrical hole in a plate has been found to be almost exactly three times the stress in the full plate, and the effects of holes comparable with the width of the tension member have also been examined in some detail.

In the case of a rivet just filling the hole and exerting no tangential effect at the boundary, there is a lessened tension stress across the minimum section at the boundary hole, accompanied by a marked radial tension. These effects have been recently confirmed in a mathematical discussion by Suychiro. Other cases give satisfactory agreement with calculation, and we may therefore feel some confidence that experimental investigation will prove useful in some of the very complicated cases arising out of engineering practice where analysis is difficult, if not impossible.

The effects of overstress in materials may also be examined by optical means, and although the laws relating to stress distribution in overstressed transparent material are not known, the general effects observed in simple cases are fairly evident. If, for example, a tension member of glass is stressed, there is no ductile yielding of the material, and the stress will therefore rise very rapidly at the boundary of a small hole, and fracture will therefore occur with a moderate load. If, however, a ductile transparent material is employed, and the material shows signs of failure at the hole, the breakdown of the structure spreads outwards as the load is increased, until we may have a condition in which within the elastic limit the curve of stress intensity at the minimum section accords with calculation, but at the overstressed part the stress tends to equalise, and the curve of intensity tends to become horizontal near the hole. The mean value of this part of the stress distribution may be inferred from the difference between the total load and the measured values below the region of failure; but the true distribution of the overstress has not been accurately determined, so that the shape of this peak is largely conjectural.

The effects of groups of rivets such as occur in bridges, boilers, and structural members of all kinds, afford ample scope for further inquiry; but before more exact knowledge can be gained of the condition of stress in a complicated riveted joint it appears necessary to examine thoroughly the very simple cases.

Mr. Scoble and I have examined the case of the load applied by one rivet to a plate with various amounts of overlap, and the stresses around the rivet holes have been measured with fair accuracy.

Other interesting cases of discontinuity in structure are

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MALINE

From "Continental Sketches"

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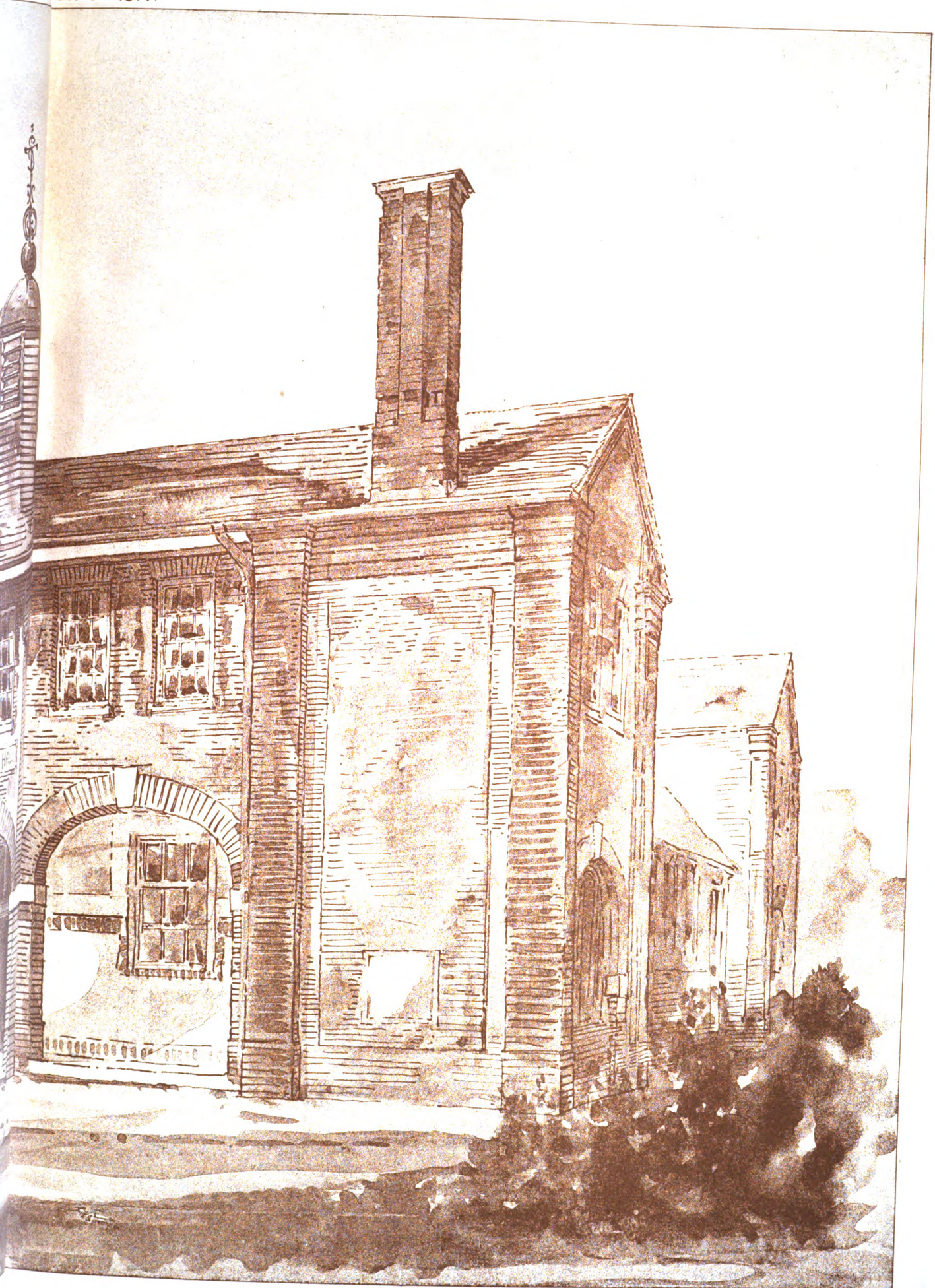


ST. SAVIOUR'S PARISH

Professor BERESFORD

(Royal Academy Exhibition, 1914.)

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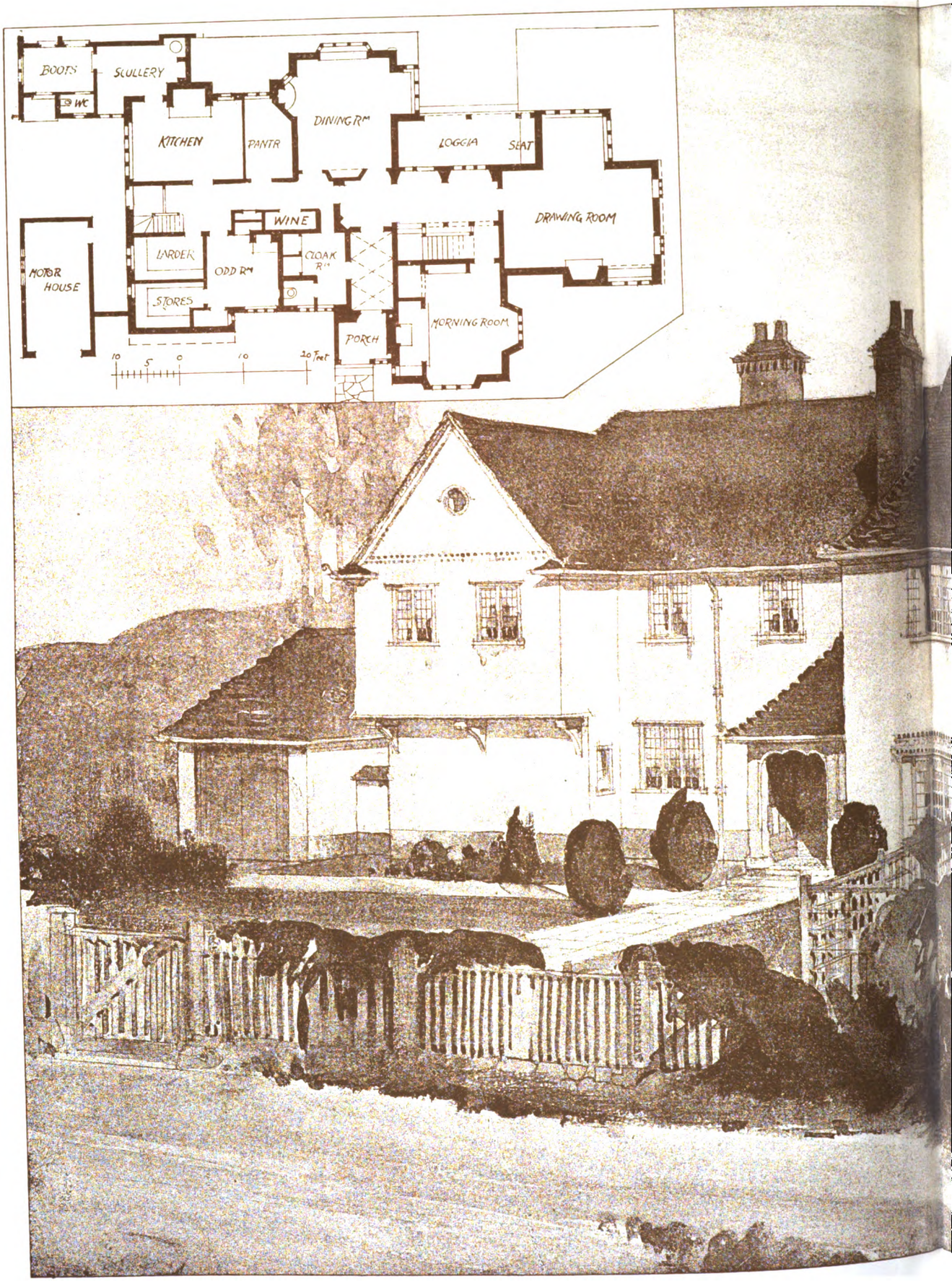
H HALL, HERNE HILL.

PITE, F.R.I.B.A., Architect.

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Oct: 9th 1914.



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afforded by the engine hatchways, gun-turrets, funnel openings, and the like in ships' decks, and some progress in this direction has been made by experiments on model decks, subjected to loads like those produced when a vessel meets the waves due to a head sea.

Even if the utility of transparent models is left out of account, it is generally acknowledged that many engineering problems are often simplified by the use of models of machines and structures on a small scale, where circumstances forbid experimental examination of the actual work. No defence of their use is, I think, necessary, since the employment of models is a characteristic feature of British methods, not limited to engineers. Kelvin did not disdain their use, and his successors, who have done so much to advance knowledge of the ether and the atomic dust, have freely employed their great ingenuity in the construction of mechanical models and diagrams to explain their views, as in the Lodge cog-wheel diagrams of the ether, the planetary systems of atoms of J. J. Thomson and Rutherford, and the grouping of elements by Soddy.

Engineers have not the same great difficulties which confront those who are advancing the boundaries of pure science; their models are very much what they please to make them; but, even then, problems arise which are sufficiently difficult to tax all the resources of applied science. The behaviour of models considered as similar structures is therefore a subject which engineers are bound to investigate in order to determine the effects of fixed and moving loads, the action of wind, the pressure and frictional effects of steam and other fluids, and many other problems.

In the majority of cases the simplest and the most direct method is the experimental study of a model from which to obtain the data required for calculating effects on a full-sized structure, and hence the laws of similarity have received a very close scrutiny.

Although most valuable information can be obtained from models, their usefulness is clearly limited. The effects of the dead weight of a structure are proportional to the cube of the linear dimensions, and are therefore not usually measurable on a model except in exceptional circumstances, as, for instance, where elastic jellies are employed, as in the well-known investigations of Pearson on the stress distribution in reservoir dams. Nor are questions of stability easy to solve, since the forces producing instability are proportional to the size of the model. On the other hand, stress effects due to applications of load may be measured by the strains produced in a model of the same material if the loads are proportional to the squares of the linear dimensions. The effects of applied load are studied even better in a model constructed of transparent material, since the variation of stress from point to point can be studied with much greater ease and certainty.

As detailed models of this latter kind present some variations from the usual laws of similarity, it may be of interest to indicate their nature. Questions of deformation clearly involve the elastic constants of the transparent material and their relation to those of the proposed structure, while stress distribution in the solid is influenced by the value of Poisson's ratio. This latter effect is quite small for glass, but may become appreciable with other substances. It is negligible in a model of any material which approximates to a thin plate stressed by forces in its own plane.

The optical effects for any given load are, moreover, independent of the thickness of the material, and depend upon the stress difference, so that colour effects are obtained which may be regarded as pictures of shear stress throughout the model. Modern researches on ductile materials like structural steel indicate that such materials fail at some limiting value of shearing stress; and since the places where these limiting values are reached in the model are visible to the eye, the weak places in the design of a structure can be ascertained and a faulty design corrected by purely experimental means.

In this connection it is of interest to mention that M. Mesnager, the chief engineer of bridges and roads to the French Government, has recently constructed an elaborate model in glass of a design for an arched bridge of about 310 feet span. This investigation was considered advisable for a work of this magnitude constructed of reinforced concrete, in order to check the calculations, especially of maximum stresses in the arched ribs, which latter were assumed to be fixed at the ends.

The effects of reinforcements were allowed for by determining equivalent sections of glass for the members of the model. Many difficulties had to be overcome in the production of a model free from optical defects, but these were all successfully surmounted. The stresses in the model were determined by aid of a Babinet compensator, and formed a valuable check upon the calculations for a structure of this great magnitude and somewhat unusual design.

In this brief and incomplete account of a small branch of applied science relating to engineering the fundamental importance of discoveries in pure science is manifest.

The discoveries in pure science and their innumerable applications to practical ends are ever a potent factor working for the common good, and the value which the British Association places upon applied science was most cordially voiced by Professor Bateson in his Portsmouth Address, when he said: "To the creation of applicable science the very highest gifts and training are well devoted," and "The man who devotes his life to applied science should be made to feel that he is in the main stream of scientific progress. If he is not, both his work and science at large will suffer. The opportunities of discovery are so few that we cannot afford to miss any, and it is to the man of trained mind, who is in contact with the phenomenon of a great applied science, that such opportunities are most often given"; and, again, "If we are to progress fast there must be no separation between pure and applied science. The practical man with his wide knowledge of specific natural facts, and the scientific student ever seeking to find the hard general truths which the diversity of Nature hides—truths out of which any lasting structure of progress must be built—have everything to gain from free interchange of experience and ideas."

Engineers who are more immediately concerned with the problems of directing the great sources of power in Nature for the use and convenience of man are indeed grateful to our President for these inspiring words, and trust that the ties which unite investigators in pure and applied science will never slacken, but will knit together more closely for a joint advance to a more perfect understanding and utilisation of the laws of Nature.

LECTURES ON ANCIENT ARCHITECTURE.

Mr. Banister Fletcher, F.R.I.B.A., gave the first of twenty-four University Extension Lectures on "Ancient Architecture" at the British Museum on the 1st inst.

In these weekly lectures he will trace the evolution of architecture in Egypt, Assyria, Greece, Rome, and Byzantium, with special emphasis on the influence of ancient art on all subsequent styles down to our own day.

He pointed out that architecture was, in all ages, the visible exponent of civilisation, and that present-day buildings were the product of ancient art and of modern needs. The study of architecture was thus necessary not only for architects, craftsmen, and students, but also for authors, journalists, photographers, and antiquaries; while the interest of history is increased by a knowledge of the dwellings and temples erected by different nations for their social, religious, and political requirements; while for the general public the ability to appreciate the monuments of the past adds to the enjoyment of travel and to the understanding of our own surroundings.

The lectures will be illustrated by some twelve hundred views, so that during the twenty-four hours thus spent students will learn as much about the architecture of the ancients as they would in at least as many months of actual travel.

Mr. Fletcher described the different influences which had their part in the evolution of the building art. Starting from the world-famous Sphinx, a sentinel of the mysterious past, he reviewed by word and picture Egyptian temples, pyramids and tombs, Assyrian palaces, Greek temples and theatres, and Roman Imperial buildings such as the Baths of Caracalla, the stupendous Colosseum, and the Arches of Triumph, as well as the dwellings at Pompeii, the churches of the Early Christians, and the peculiar work of the Byzantines.

Obviously the British Museum, which contains the world's richest collection of ancient art, is an ideal place for such lectures, as there the exhibits can be studied in the class after the lecture.

This course is recognised in qualifying for the Diploma in the History of Art given by the University of London.

The lectures are delivered on Thursday afternoons at 4.30 in the Assyrian Saloon of the British Museum.

The subject of the next lecture will be "Egyptian Architecture."

Particulars can be obtained from the Hon. Secretary, 10 Woburn Square, W.C.

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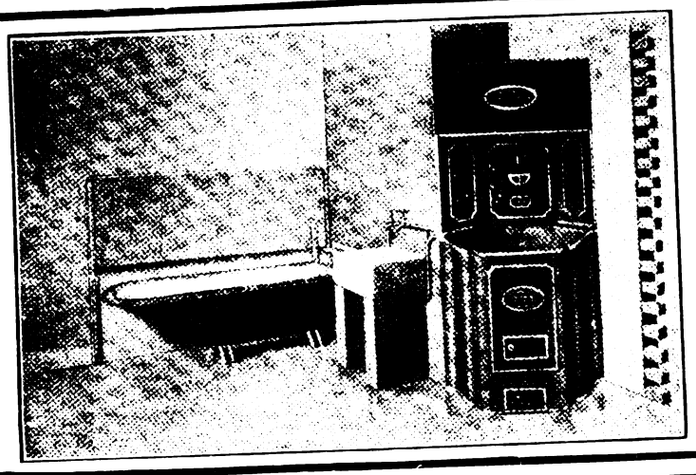




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LECTURES ON GOTHIC ARCHITECTURE.

Mr. Banister Fletcher, F.R.I.B.A., gave the first of twenty-four University Extension Lectures on "Gothic Architecture" on Monday at the Victoria and Albert Museum.

He explained that he would deal with architectural history on broad lines and trace its evolution in the different countries in Europe. He described architecture as a visible exponent of civilisation uniting and embracing the other arts, and pointed out that modern design is a product of ancient art and present-day conditions, and as architecture is the basis of all design, a knowledge of it was necessary not only to designers and art students, but also to the whole community. Author and novelist, journalist, photographer and connoisseur, all alike were indebted to architectural design, while historians now record not only what men did, but what they made; not only describe the battles they fought, but the buildings they lived in and the churches they erected for the worship of God.

Furthermore, to travel without a knowledge of architecture is like having a book in front of one without the ability to read it.

Mediæval architecture was a continuous evolution from the early round-arched or Romanesque period to the pointed-arch or Gothic period, and was not the product of individual architects, but of forces and tendencies underlying the whole life of mediæval times.

Foremost among those who influenced the character of the art of the period there were always the clergy, the monastic communities, the secular canons, friars, and military orders, as well as the power and influence of the papacy and of the crusaders. The condition of the people, the wild state of the country with few roads and the necessity of pack horses for carrying building materials, the feudal system, the growth of the towns and the trade guilds of London also contributed new influences. Views were shown connecting mediæval architecture with the styles of the past, also of the various types of buildings of mediæval Europe, including some of Rheims Cathedral. Lantern slides, of which some twelve hundred will be shown, are a special feature of the lectures, rendering the acquisition of a knowledge of architectural history easy, while the visiting class enables students to study the exhibits in the museums.

In conclusion, the lecturer said that he would endeavour to introduce the atmosphere of the mediæval period as a background of association between history and architecture.

The lectures are on Mondays at 4.30 p.m. in the Lecture Theatre of the Victoria and Albert Museum, South Kensington, S.W.

The subject for the next lecture is "A Typical Gothic Cathedral."

Particulars of the course can be obtained from the Hon Secretary, 10 Woburn Square, W.C.

THE INSTITUTION OF MUNICIPAL ENGINEERS.

At a meeting of the Council held in London on September 30 the following applicants were recommended for admission:—To membership: Fox, E. T., Deputy and Acting Surveyor, Alnwick U.D.C.; Pereira, R. A., Acting District Board Engineer, Godavari, India; Gunn, W., Shire Engineer, Surat, Queensland; Hardy, C. D., Shire Engineer, Gilgandra, N.S.W.; Speed, R. D., Shire Engineer, Ararat, Victoria; D'Alton, St. Eloy, Shire Engineer, Dimboola, Victoria; Sands, J., Town Engineer, Wynnum, Queensland; Thompson, T. L., Shire Engineer, Harwood, and Engineer, Maclean Corporation, Queensland. To associate membership: Wahby, M., King's College, Strand, W.C.; Jussawalla, J. R., Executive Engineer's Department, Bombay Municipality. Transfer to membership: Trimm, C. A., Chief Surveyor and Engineer, Co-partnership Tenants. Transfer to associate membership: Clarke, F. A. W., County Surveyor's Office, East Suffolk. Elected to studentship: Nixon, F. S., Surveyor's Office, Bedale R.D.C.

From the applicants recommended for admission at the last meeting twelve members and four associate members were elected.

The text of the P. H. Acts (Building By-Laws) Amendment Bill is being considered by the General Purposes Committee, who will report at the next meeting of the Council.

The Departmental Committee on Building By-Laws is prepared to receive evidence from the institution. The Committee has been appointed to inquire into the working of the building by-laws, and it has been decided as a preliminary that the institution submit to the Committee a memorandum embodying shortly its views. Members are requested therefore to send any suggestions they may have to make as to present codes of by-laws, their working and administration, and so forth, and these suggestions will then be dealt with by a special committee of the institution that has been appointed to prepare the memorandum.

The resolution of the N.A.L.G.O. of September 9, that a battalion be recruited from members of the National Association for service during the war, was before the Council, who are of opinion that, as there are many assistants able to leave their official duties who might desire to avail themselves of the opportunity, the matter should be brought to the notice of the members of the institution.

Messrs. Latham, Pegge, and Stickland were re-appointed institution delegates to the National Association.

The next meeting of the Council will be held in London on Wednesday, October 28.

The annual general meeting will be held in London in November on a day to be arranged.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

Cheshire.

Birkenhead.—Council school, Valkyrie Road, Wallasey (£19,000).

Northwich.—Council school, Priory Street.

Sale.—Council school, Urban Road.

Council school, Park Road, Ashton-on-Mersey (for 300 places).

Derbyshire.

Hepthorne.—P.M. Church and school.

Ockbrook and Borrowash.—Council Schools (£6,400).

Durham.

Bank Head.—House, for Mr. T. Hodgson.

Edmondsley.—Proposed Council school for 450 places (£5,750).

Harraton.—One hundred houses (£26,250), for the Chester-le-Street R.D.C.

New Herrington.—House, Lumley Street, for Messrs. Liddle Bros.

Stable and warehouse, for Messrs. Brown & Toon.

Pelton Fell.—Council junior school (£6,000).

South Shields.—Offices, West Side, Tyne Dock, for N.E.R. Company. Mr. W. Bell, Company's architect, Westgate Road, Newcastle-on-Tyne.

Spennymoor.—Two houses, South Terrace, for Mr. J. A. Tighe.

Essex.

Barking.—Thirty artisans' dwellings, Gascoigne Road.

Secondary school for 200 mixed places (£9,400). Mr. E. Topham Forrest, County architect, 73 Duke Street, Chelmsford; also

Felstead.—Rayne Council School: additions, alterations, &c.; also

Rainham.—Council school: additions and alterations.

Chelmsford.—Community House and Homes of Rest, Bicknacre, for the Community of St. Giles, Ltd.

Dagenham.—Factory, Chequer's Lane, for Messrs. Williams & Sons.

Romford.—Boys' secondary school, Heath Park Road.

Gloucestershire.

Stroud.—Tuberculosis hospital. Mr. G. P. Milnes, architect, 6 Rowcroft.

Kent.

Canterbury.—Council School, Wincheap.

Lenham.—County Sanatorium.

County School, Platt's Heath: additions.

Maidstone.—Two houses, Old Tovil Road, for Mr. N. Smith.

Lancashire.

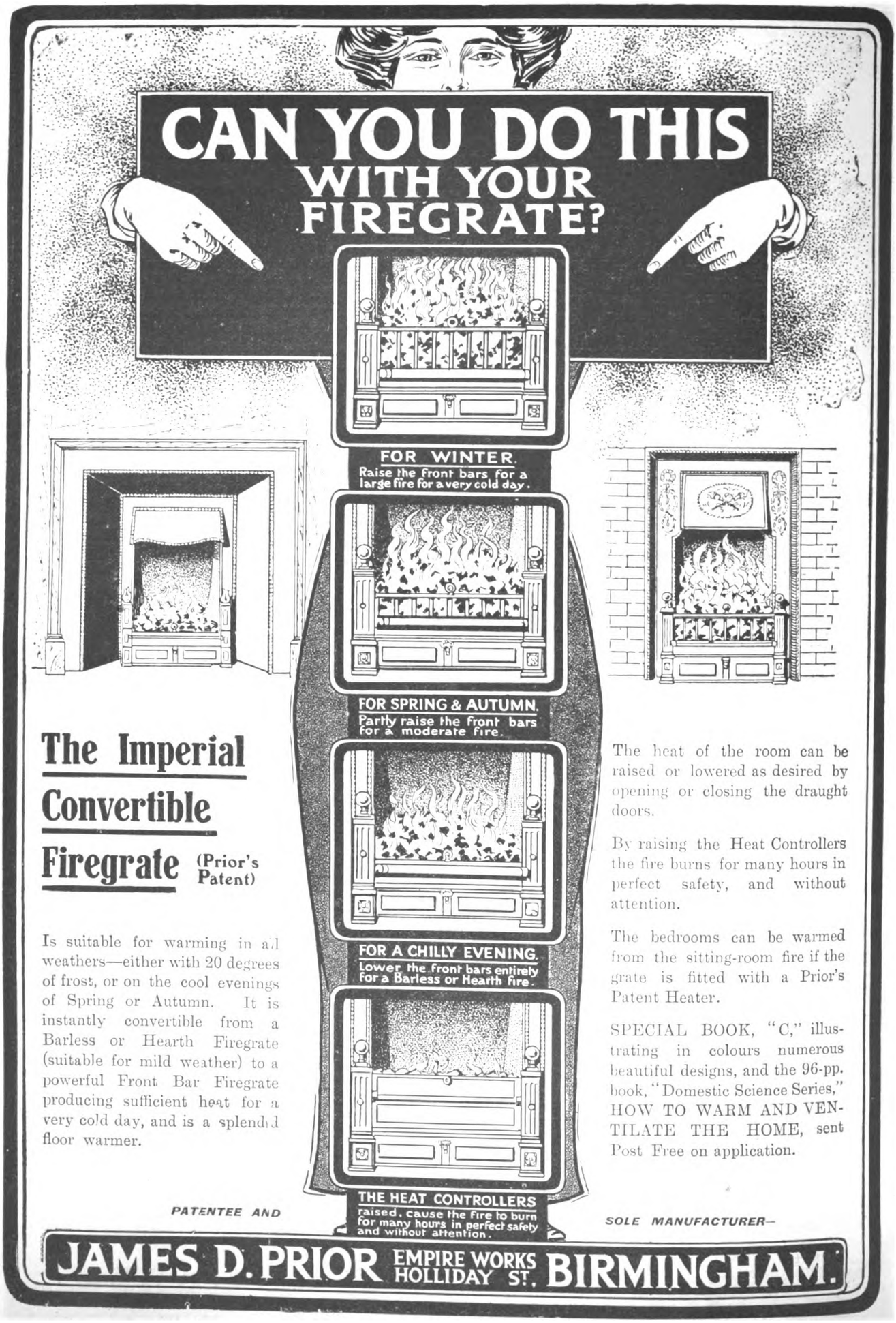
Barrow-in-Furness.—Council school (£13,300).

Manchester.—Municipal school, Orford Street, Cheetham.

Preston.—Sanatorium and hospital. Borough surveyor.

Rawtenstall.—Proposed new Post Office and Telephone Exchange.

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ENGLAND—*continued.*

NOTTINGHAMSHIRE.

Mansfield.—Additions and alterations for conversion into banking premises, Stockwell Gate and Sadler's Court, for the Capital and Counties Bank, Ltd.
Forest Hospital: extension (£4,850).
Two houses, Crow Hill Drive, for Mrs. Copestake.
Two houses, Debdale Lane, for Messrs. Hind & Wass.
Four houses, Chesterfield Road, for Messrs. T. Layton & Son.
Two houses, Southwell Road, for Mr. J. W. Baxter.
Two houses, Southwell Road, for Messrs. H. & C. Oliver.
House, Gilcroft Street, for Mr. G. H. Cox.
House, Stella Street, for Mr. G. Strawther.
Nottingham.—The "Belle Vue" Hotel, Woodborough Road: alterations.
The "Rufford" Hotel: alterations.

SHROPSHIRE.

Ludlow.—Workmen's cottages, Waterside, Holdgate Fee. Mr. J. Butters, architect, Castle Square.

SOMERSET.

Bridgwater.—Workhouse: boiler-house, &c. Messrs. W. & F. W. Wills, Ltd., engineers, Salmon Parade.

STAFFORDSHIRE.

Gnosall.—Infants' Council School.
Wolverhampton.—Council School, Bagnall Street. Messrs. Fleeming & Son, architects, 10 Queen Square.

SURREY.

Burgh Heath.—Ten cottages, Canon's Lane (£3,500). Mr. A. C. Williams, architect, 53 Doughty Street, London, W.C.
Croydon.—Conversion of two houses, Lower Addiscombe Road, into banking premises. Mr. E. Bates, A.R.I.B.A., architect, 27 Queen Victoria Street, London, E.C.
Two houses, Duppas Avenue, for Messrs. Baldwin & Sons.
House, Raymead Avenue. Mr. C. S. Banks, architect, Oakfield Road.
Two houses, Crowther Road, for Mr. G. Cook.
Twenty-six houses, Northborough Road, for L.C.C.
House, Shirley Park Road, for Mr. J. B. Hemmings.
House, Teevan Road, for Mr. A. W. Dawson.
Six houses, Woodside Court Road, for Mr. R. B. Mauser.
Guildford.—Joint Isolation Hospital: diphtheria wards. Mr. J. H. Norris, architect.
Premises, Ram Corner, for the West Surrey Dairy Company. Mr. E. L. Lunn, architect, 36 High Street.
Woking.—Goldsworth School: extension for additional 200 mixed places (£3,100).

SUSSEX.

Brighton.—Council school, Loder Road (£16,000).
Flimwell.—Workhouse: additions. Mr. H. M. Caley, architect, 29 Mount Pleasant, Tunbridge Wells.
Horsham.—Carfax Electric Theatre: alterations, for Mr. W. F. Pannett.
Worthing.—Davison School: additions and improvements.

WARWICKSHIRE.

Coventry.—Additions and alterations to premises, Leicester Street, as a general depôt, for the Corporation. Mr. J. E. Swindlehurst, City surveyor, St. Mary's Hall.

SCOTLAND.

Dundee.—Shops, Murraygate: alterations, for Messrs. R. & J. Dick, Ltd.
Theatre, Rosebank Street, for Mr. D. Stewart.
Washhouses, &c., Lilybank Road, for Mr. R. Watson.
Plean.—Presbyterian Church (£2,500).

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

A. A. Educational Work.

SIR,—There have been many inquiries as to whether the Architectural Association is carrying on its educational work during this crisis in national affairs, and I therefore should like to make it known as far as possible that everything is being carried on as in normal times. The day and evening classes are necessarily depleted by the patriotic response of a large number of students to Lord Kitchener's appeal, but there are still many students who for various reasons are unable to join the Forces, and these are very properly continuing their studies. I would urge the importance of all students continuing their educational work if they are unable to enlist.

Apart from the work in the school, considerable recruiting is going forward at 18 Tufton Street from the ranks of architects and men of kindred professions, and also (at the request of the authorities) amongst skilled mechanics connected with the building trade. I feel sure that members and others will be glad to know that the A.A. is carrying on its work and doing its best in other ways to be of some practical service to the country.—Yours faithfully,

H. AUSTEN HALL.
Acting President.

October 7, 1914.

A New Trade Ministry.

SIR,—A great deal is being said and written just now with respect to the capture of German and Austrian trade, but I think I represent the views of a large section of British industry when I say that British firms will not get the assistance in this work to which it is entitled under the Board of Trade as at present constituted.

Now is undoubtedly the time to cast aside "red tape," finally rout the "circumlocution" departments of the British Government, and establish in the place of the Board of Trade several departments, and I suggest the following as a proper and reasonable distribution, viz.: A minister of commerce, minister of railways and marine, and a minister of labour. In my opinion these three ministries would cover the whole of the work entrusted to the Board of Trade, and if efficiently organised would do that work much better.

Further, I consider these ministers should not necessarily be members of any party, but should be chosen solely by merit, the basis of selection being the same as pertains in the appointment of the Sea Lords of the Admiralty and, generally speaking, of the Bishops of the Church of England.

It is, in my opinion, nothing short of a scandal that the same department should, as I said at the luncheon given at Olympia on October 4, 1912, be responsible for the safeguarding of £1,100,000,000 of import and export trade and the safety of the door handles of railway carriages.

If this has been true in the past, what of the present and future, when British firms are urged to capture as much as possible of the £500,000,000 export trade of Germany and Austria?

Every thoughtful Englishman must believe that on the action taken now will depend the future of the British Empire. Now is the time to take what is best from the collective German organisation in commerce and graft it on to our individualism, thus forging an irresistible weapon for the nation.

This can only be done, in my opinion, by the co-operation of three factors:

1. By British firms being willing to drop antiquated methods and seize the opportunity with both hands.

2. By the adoption, under compulsion or otherwise, of a national policy on the part of our great joint stock banks, or, if it is impossible, to make business men of the controllers of our banking institutions by the formation of State-aided banks of commerce, whose main duty is not to avoid assisting their clients, but rather to meet half-way those requiring financial facilities for legitimate business enterprises.

3. By a thoroughly business policy on the part of the Government which could quickly show itself in two most needed reforms: (*a*) The selection of men as ambassadors and ministers to foreign countries, those who have some business aptitude as well as diplomatic experience, and the appointment of commercial attaches, who shall in all cases be trained business men. (*b*) The appointment of trained business men as consul-generals and consuls in all important centres of trade, and the abandoning entirely of the policy of appointing foreigners as consuls and vice-consuls in order to save a few thousand pounds per annum.

I think that these views represent the opinion of the large majority of business men in this country, and one cannot help accentuating the importance of prompt action in this matter, while there is an opportunity of organising with a view to the state of trade which will exist after this great war is over. If something is not done now the whole

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matter is likely to be shelved, and we shall continue our usual policy of muddling along.—I am, Sir, yours faithfully,

CHARLES H. LUKE,
Joint Managing Director Walter Cawood, Ltd.
196 Deansgate, Manchester: October 3, 1914.

The Paint and Varnish Society and the War.

SIR,—In the existing crisis the Paint and Varnish Society is an invaluable organisation for all concerned in the manufacture and use of paint, varnish, and allied products.

The Paint and Varnish Society is the ready medium for conjoint action by the industry as a whole, or by any section thereof. It can be of material assistance to manufacturers, merchants, craftsmen, and others in dealing with the sudden permanent change in economic conditions, whether in the maintenance of existing or the promotion of new industries, in securing a continuity of supplies, in advancing technical efficiency, and in influencing legislative and departmental proposals.

The services of the Paint and Varnish Society—the recognised authority in matters concerning the interests of the trade—are at the disposal of H.M. Government, and the Council earnestly requests all connected with the trade to add their names to the list of members in order that such action as the Society may be called upon to take will be representative to the utmost degree.

A series of meetings will be held at short intervals during the early months of the session, and the Secretary will be glad to receive communications from gentlemen in the trade—whether members of the Society or not—on any subject affecting their industry.

Application for membership should be addressed to the Honorary Secretary as below. Subscription, 10*s.* 6*d.* only. There is no entrance fee at present.—Your obedient servant,

R. CLAUDE BUSSELL,
Hon. Secretary.
13 Gower Street, London, W.C.: October 1914.

2nd (Home Service) London Sanitary Company.

SIR,—The 2nd London Sanitary Company has volunteered for service abroad, and a new Home Service unit is being formed to take its place. It is desired that the new unit shall be composed of men with definite experience in some branch of sanitary work.

There are doubtless many among your readers who have not seen their way to volunteer for service abroad who would be glad to serve their country at home.

The need is urgent, as many hundreds of thousands of men are now encamped or billeted in various parts of the country, in many cases necessarily without any sanitary arrangements beyond what they can improvise for themselves. Under these conditions, as shown by our experience in South Africa, and that of the United States in the Spanish-American War, devastating outbreaks of disease must sooner or later occur unless the sanitary work of the various camps is carefully and conscientiously performed. Any failure in this respect will inevitably lead to a deplorable loss of life and may even seriously cripple the country in the life-and-death struggle in which it is now engaged.

The chief danger lies in the failure of the vast majority of the men to realise the need for sanitary precautions, coming as most of them do from homes where the whole of the sanitary duties are admirably discharged without effort on their part by the local sanitary authorities.

The principal work of a sanitary company is to supervise the sanitation of camps and billets, to report defects, and instruct the sanitary squads of the various units.

Any of your readers desiring to join the new company, or to obtain further information concerning it, should apply to Lieut. Cave or myself at the Duke of York's Headquarters, Chelsea (close to Sloane Square Station), on any week day between 9.30 A.M. and 6 P.M.—Yours faithfully,

ARTHUR J. MARTIN,
Captain R.A.M.C.T.F.,
O.C. 2nd (Home Service)
Oct. 5, 1914. London Sanitary Company.

Investment in Housing.

SIR,—Many people are at the present time doubtful as to how they shall invest their money, in view of prevailing uncertainties. The Garden Cities and Town Planning Association wishes to call attention to one method of private investment which may be of great national service.

There are at present in existence a number of schemes, such as the first Garden City at Letchworth, and the various Garden Suburbs which have been successfully started in various parts of the country, where building and development operations are now in danger of being curtailed through lack of capital, and where much work could be done if money were at once forthcoming.

As these schemes are all to meet the lack of housing, those prepared to help them would be securing three important points:—

(1) They would lessen both unemployment and the call upon relief funds;

(2) They would help to ease the pressing housing problem;

(3) They would receive a satisfactory financial return upon their money.

It should be pointed out that under recent legislation the advantage secured is far greater than the amount invested. The Local Government Board is prepared to advance to Public Utility Societies a large proportion of the capital needed for housing purposes. If, as may well be the case, 80 per cent. of the value of the property is advanced by the Local Government Board, every £1,000 of capital subscribed will mean £8,000 worth of building operations.

Information can be obtained from the offices of the Garden Cities and Town Planning Association, 3 Gray's Inn Place, London, W.C.—Faithfully yours, in the name of the Association,

(Signed) SALISBURY,
President.
CECIL HARMSWORTH,
Chairman.
EWART G. CULPIN,
Secretary.

Government and Building Contracts.

SIR,—The attitude of the Government in the present crisis regarding building contracts cannot be too widely known, and for that purpose I give below the Government's reply to recommendations placed before them by a Committee of Building Trades interests on August 8:

"Sir,—I am directed by the Board of Trade to state that the views of the deputation which attended at this Department on August 8 in regard to building operations undertaken on behalf of Government Departments were communicated to the Office of Works, and that the Board understand from that Department that it has been decided to press forward, as quickly as possible, all work for which provision has been made in the Estimates.

"The claims of contractors who are likely to suffer loss owing to the rise in the cost of materials, &c., are receiving consideration, and the Lords Commissioners of the Treasury have already been approached with a request for authority to be granted to the Office of Works to modify the terms of contracts entered into before the declaration of war where the circumstances are considered to warrant some modification.

"The Board also understand that the question of accelerating advance payments to contractors and also of releasing portions of the retention money, where this may be practicable, are also receiving attention, and each case will be dealt with on its merits.—I am, Sir, your obedient servant. "(Signed) GEO. J. STANLEY."

By this it will be seen that whilst the Government in no way absolves any contractor from legal liability with contracts entered into prior to the declaration of war, yet it is their declared intention to modify the terms where circumstances are such that the carrying out of some to the strict letter would mean undue hardship to the contractor.

The acceleration of general payments to Government contractors will be appreciated and do a great deal to help the finances of many. The releasing of retention money hitherto held up, in many cases for long and unjustifiable periods, will be welcomed by all.

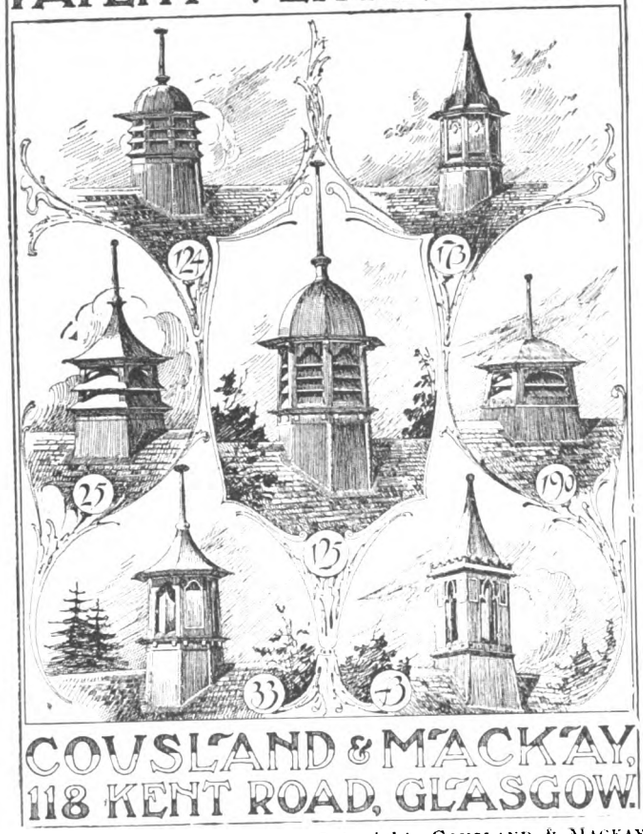
This Government action should have the effect of inducing those who placed building contracts prior to the war to adopt the same liberal and loyal spirit by agreeing to modification where the abnormal cost of material involves a heavy loss on contract.

Should any contractor, in face of this official communication, have any difficulty in any of the directions indicated I shall be pleased to give any assistance in my power.

There are further suggestions still before the Government regarding advances from banks to builders and contractors, and it is hoped that some reply on this score may be given shortly.—Yours truly, P. DONALD.

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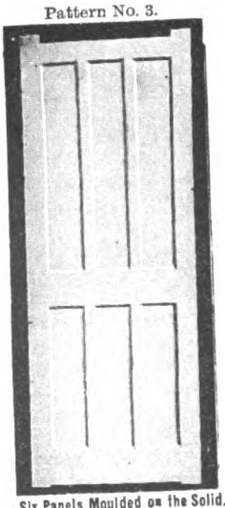
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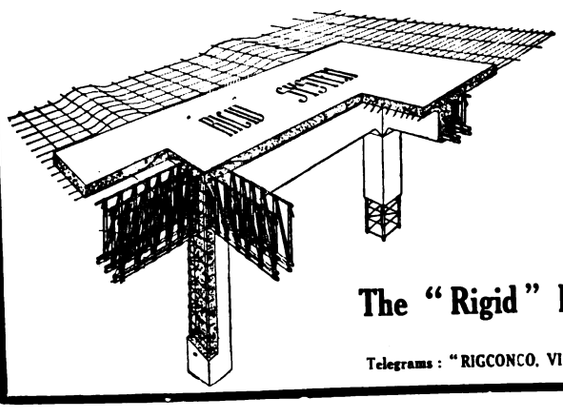
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THE ARCHITECT

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FORTHCOMING EVENTS.

Friday, October 16.

University College, London : Paper entitled "The Principles of Architectural Sculpture," by Professor E. A. Gardner, at 3 P.M.

Monday, October 19.

University College, London : Paper entitled "The Functions of a Municipal Engineer," by Professor E. R. Mathews, at 5.30 P.M.

Thursday, October 22.

Society of Architects : Paper entitled "Some Belgian Towns affected by the War," by Mr. G. A. T. Middleton, A.R.I.B.A., at 8 P.M.

Monday, October 26.

Architectural Association : Annual General Meeting. Paper entitled "Art and the War," by Professor Selwyn Image, M.A., at 8 P.M.

MORE DETAILS OF GARDEN-MAKING.

Having arranged our enclosing boundaries we must consider how we shall treat the necessary openings in them for access and intercommunication. Save for those occasions on which privacy or protection from marauders and undesirable intruders is required it does not appear necessary to furnish our opening with gates, nor, indeed, to mark them with any architectural feature so long as the enclosing boundaries are regarded from the point of view of subdividing a garden or providing for shelter. But it is not altogether easy to mentally subordinate our impressions and associations to this point of view. An enclosure with mere unfilled gaps for openings suggests incompleteness and inefficiency, and one might very well suppose that the wooden doors that so generally close the openings in the walls surrounding old kitchen gardens owe their existence to this innate feeling, as much as to the desirability of preventing the youngsters of the family from making themselves ill with unripe fruit or the chickens from an unauthorised extension of their dietary.

Openings in hedges are, perhaps, best left without complete enclosure by doors or gates. Importance and dignity can best be given by a more or less elaborate piece of topiary work, be it no more than a square pier, so to speak, carried up above the normal hedgeline, or, on occasion, an arch of greenery spanning the opening. Walls and fences seem to demand some form of pier bounding the opening and avoiding the crudity of a mere hole in the wall. The material of the pier must necessarily be determined by, and in accord with, the material of the wall or fence. It need not be of the same material, but may, preferably even, be of richer character, offering to the garden-maker an opportunity of exercising his fancy in design, increasing the interest of a marked point of importance. The treatment of the piers and their relationship to the wall itself, and particularly the skyline they make with it, should be carefully considered. The piers, whether of brick or stone, or combined of both, should be sturdy enough for their work as well as for the emphasis they express, but should also avoid an unnatural clumsiness. Built of ashlar, with Classic cornice and plinth, or formed of the irregular masonry of the garden wall, or again of brick, flint, or tile, or a combination of these materials, they may take the usual square shape, or vary the lines by octagonal, hexagonal, or circular plans. Rusticated piers form excellent features, or the face may be panelled and enriched with carving of coatmail or other motif.

Then for the gates. For these there is perhaps no better material than wrought iron, with its facility for interesting design, its telling effect *en plein air*, its contrast with the solidity of the wall and pier, as well as with the informality of natural foliage. The old-fashioned wooden door is not, however, out of place in the protective wall of the fruit garden, and from a practical point of view is even preferable to the openwork of the wrought-iron gate, which may quite perceptibly diminish the protective agency of the wall. A wooden fence seems to demand a gate of the same material. There is something incongruous and forced in the introduction of the wrought-iron panel, which finds favour with some designers of garden architecture.

Having settled our enclosures and their openings, we now come to the treatment of the enclosed spaces, and first in importance is the part that we assign to grass. Green turf, we may say, is the carpet with which we lay the broad spaces of our garden floor. Its presence near the house in an unbroken stretch is one of the most essential conditions of a reposeful and beautiful plan. Yet turf is a great problem in the garden, and should be used with discretion. It requires incessant labour to maintain its perfection, and its charm is easily destroyed by injudicious surroundings or by the introduction of irrelevant and disturbing features.

The uses of turf in garden-making are many and varied. As a border it is unrivalled, and it is equally adapted to the edging of beds, paths, or buildings. The house that rises from turf appears to stand upon a level lawn, and there is no better base for the purpose of defining the contour of its plan against the ground. Turf, moreover, will allow of creepers and climbing plants growing against the house, and will prevent all untidiness. Narrow beds should be carefully avoided next the walls of a house, for they are small of content, difficult to keep in order, and they spoil the lines of the building. On the other hand, wider beds are also undesirable, for although they are beautiful in themselves they obscure the building, and gradually growing in height in the course of successive garden operations, too frequently mount above the damp-course level of the house walls and so carry moisture to the undefended surfaces. The tarred plinth, so often seen in old cottages and not infrequently introduced into modern garden-village building, has doubtless its origin in the prejudicial action of beds against the wall. A strip of turf next the building is a more sightly and at the same time effective protection against the degradation of the damp course.

Gravel paths are unsatisfactory against brick or

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stonework, for the materials do not harmonise, and the colour generally clashes rather than contrasts harmoniously as does turf. Not only should turf separate the main paved or gravelled walk or terrace from the house, but it may be advantageously and pleasantly used on both sides of a paved or gravelled walk. The fact that this is framed in green will greatly increase its beauty, as all will admit who are acquainted with stone-flagged paths across a lawn. More than this, the turf itself makes most beautiful walks in dry weather, and the grass path is a thing of quite unrivalled charm. It must, however, be kept in the very pink of perfection, soft and with the springiness of velvet, with edges trimmed with unerring straightness, to be at its best, and so is costly of labour in upkeep. A favourite device on the plans of garden designers is the grass bank, whether as an inexpensive method of treating different levels or of forming a sunk surface for bowling greens and tennis lawns or sunk gardens, or merely as an excuse for the introduction of steps. It must be remembered, however, that they are difficult and expensive in upkeep, and if they lose their shape easily become unsightly.

In the planting of beds and borders much must be left to the individuality of the gardener as distinct from the garden-maker; provision must be made for the association and massing together of flowers, so that thereby the colour and general beauty of the blooms may be intensified. Care must particularly be taken that the beds are not cut up into too small sizes, and borders should be of generous width. The paths must be kept within due limits, particularly in the lay-out of the formal garden, lest they predominate and the garden become all form and no flowers.

It is not on every occasion possible, but when the opportunity occurs the value of a terrace as an element of the garden is, we might almost say, supreme. It is essentially a place of prospect, open to the air and sky, although it may often be prolonged into sheltered walks and covered ways; also it should provide for use in showery weather, when grass and covered ways are unattractive; hence it should consist mainly of paved surface, and may advantageously contain within its entourage the summer-house or gazebo. Presenting also a tempting opportunity for promenade, the terrace should be furnished with seats, either in the open or shaded under a semi-enclosure. A terrace being always more or less formal in conception, balustrades and steps are its natural concomitants, and afford opportunities for special effort in design.

With the terrace may very well be combined also small water spaces and ponds, either with or without fountains, but care should be exercised that these alluring features are not allowed to prejudice the hygiene of the house. Damp, noxious vapours and mosquitoes are all potential ills which may arise from an unwise use of water in garden-making. The moated grange is charmingly picturesque to look at, but seldom a desirable place to live in.

Illustrations of many examples of the details we have been considering will be found in Mr. Walter H. Godfrey's book* on "Gardens in the Making."

NOTES AND COMMENTS.

The views of the Local Government Board and those of the Treasury with regard to the pressing forward of public building enterprise are not quite in accord. The former desire to prevent unemployment, the latter to conserve the nation's financial resources, so that "the last few hundred millions" may be ours to carry the war to a successful conclusion.

Mr. Lloyd George has cleared up a misunderstanding which had arisen out of his recent speech to the Association of Municipal Corporations. The Chancellor of the Exchequer had warned local authorities against extravagance, and his remarks have in some quarters been interpreted as meaning that unless distress was acute and insistent they should not put relief works in hand. Mr. Lloyd George explains that he never meant that they should not look ahead, but only that they should not launch out into extravagances.

The explanation was made in reply to a deputation from the Workers' National Committee, when Mr. Lloyd George dealt with the position in the building trade. He was told, he said, that things were improving. Still, there was a good deal of unemployment. He had had a discussion with the First Commissioner of Works (Lord Emmott), and they thought it desirable to take full powers this year for the erection of all Government buildings which they thought they would have to undertake in the course of the next few years. A good many post offices and Government buildings of one kind and another no doubt would have to be erected in the course of the next five years. In the ordinary way he would have spread those buildings over the Estimates of the next five or six years. They would probably crowd most of them now into the Estimates of the coming year. The advantage of that would be that they could just watch the state of the building market, and if it looked as if there were going to be considerable distress they could put forward those buildings. If the markets were favourable they could postpone them.

The influence of the apparently divergent views of the two great Government Departments was reflected in a discussion at the Liverpool City Council on the housing schemes of the Corporation now in contemplation. The report in the *Liverpool Courier* says:

"The Housing Committee recommended the acceptance of the tender of Messrs. William Hall & Son, Ltd., for the erection of labourers' dwellings on the Gore Street and Jordan Street areas for the sum of £17,953; and the tender of Messrs. Richard Costain & Son for the sum of £6,900 for the erection of labourers' dwellings on the Sparling Street area.

"Sir Charles Petrie asked that this matter should be put back. He said it was advisable not to spend such large sums of money at the present time. They were advised, he said, by the Chancellor of the Exchequer to restrict their expenditure as far as possible because of the large amount of money which would be required for the successful completion of the war. There was also the question of the big advance in the price of building materials to be considered, and he (Sir Charles) hoped the committee would see their way to take this matter back.

"Colonel Kyffin-Taylor, M.P. (chairman of the Housing Committee), said he was sorry he could not comply with Sir Charles Petrie's request. The estimates in respect to these schemes were actually £62 less than the amount sanctioned by the Local Government Board. The price of building materials had gone up from 15 to 20 per cent. during the last two years, but there had been no marked advance owing to the war. It must also be remembered that the spending of this money would be extended over a long period. In view of the apprehension of extreme distress in the building trade the First Commissioner of Public Works had stated that it was his intention to push forward with all Government work, and he expressed the hope that private individuals would follow their example, and proceed with their building schemes. Surely, added Colonel Kyffin-Taylor, it is far better to find employment than have to find relief for those unemployed. The committee's recommendation was carried."

The building trade and the architectural profession, who are not all rich men, must of necessity suffer from the postponement or abandonment of public building, and we hope that a wise discretion will be shown by municipal authorities and other public bodies with regard to schemes in contemplation. Extravagance in building

* *Gardens in the Making.* By Walter H. Godfrey. With illustrative designs by the Author and Edmund L. Wratten. (London: B. T. Batsford, Ltd. 5s. net.)

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ENGLISH COTTAGES.—AT KNUTSFORD, CHESHIRE.

must of course be avoided, but it will not be economical to fill our workhouses with architects, builders, and builders' workmen.

German town-planning shows the defects of the national character equally with their scheme of war. Their fighting machine puts hosts of men into the battle line, but when they have got there they cannot fight, either with rifle or bayonet. Their cities are magnificently planned with splendid roads that leave no room for the houses. This was brought out by Mr. Raymond Unwin in the opening address of this session's course of lectures on civic design and town-planning, arranged by the Birmingham University. He mentioned during the course of this address that it was hoped to make the afternoon addresses more interesting this year, as the illustrations would be largely drawn from towns in Germany, France, and Belgium, which occupied the public mind very much at the present time. Town-planning in Germany since 1870, he thought, gave a great insight into the character of the people, and much which had happened during the last four months. In German town-planning they saw evidence of thoroughness and concentration and other qualities, but at the same time there was a lack of imagination which led to pushing an idea to an extreme point and neglecting other things. For instance, the Germans had concentrated on wide main streets which, though unquestionably producing a fine effect, had led to congested tenement buildings and high land prices. Their thoroughness was indicated by the complete way they had dealt with every point in town-planning—industries, transit, recreation, and so on—but lack of imagination had led them to overlook several important things.

The influence of photography on painting has been well explained in a lecture before the Leeds Photographic Society by Mr. Sadler, who, according to the report in the *Yorkshire Post*, emphasised the striking fact that the brilliant achievements of photography had coincided, in point of time, with an outburst of artistic genius which had produced some works worthy to be ranked with the great masterpieces in the history of European painting. Photography had proved to be, not the rival or the foe of painting, but one of the forces which had driven the most gifted painters into new fields and heights of creation. The development of photography, and the new movements in modern painting, etching, and sculpture, were both the outcome of a deep stirring of the human spirit, the result of a quickening of the imagination which had been directed in the one case to new applications of science, and, in the other, to new attempts at the expression of deeply felt significance in colour or in form.

Photography had, it was true, superseded the painter in some departments of work previously the painter's own. In topographical landscape, it was no longer necessary for a country gentleman to employ a gifted young man like Paul Sandby or J. M. W. Turner to sketch his mansion, set in the umbrageous contours of a rural demesne. It was no longer necessary for a young man of wealth and taste like William Beckford to take with him, on his journeys through Switzerland and Italy, a gifted draughtsman like J. R. Cozens, in order to record the memory of some striking landscape or atmospheric effect. The returned Indian official need no longer ask an untravelled painter like J. S. Cotman to construct from inadequate description a brightly coloured representation of some Far-Eastern scene. The wealthy merchant or squire, wishing to perpetuate on the walls of his saloon or dining-room the lineaments of himself and of his spouse, was no longer confined to seeking the help of a still unfamous Hogarth or budding Gainsborough, or a clumsy-pencilled juvenile Constable. Photography did, either well or ill, what these different customers desired. Topography, landscape, and portraiture were, indeed, in their highest aspects, still the privilege of the creative and original artist. But the humdrum, matter-of-fact, literal delineation of the features of a country, or of the human face, was now more economically and sufficiently achieved even by the journeyman photographer, and still more by the true photographic artist.

Step by step, photography, in its advance, had driven the painter out of many of the trenches of tradition (not out of the highest traditions of all), and had compelled him to seek new country and to soar to unaccustomed heights. The key to what (amid much that is transitory and imitative) was best in the good modern schools of painting and of sculpture was to be found in sincerity in the search for new significance in form and colour. In this effort to express a sense of newly and deeply felt significancies in colour and in form, the modern artist of creative genius turned his back on photography and left to it the delineation of the external and literal things.

The value of photography as a means of making and preserving records is illustrated by the completion of the first portfolio of the survey undertaken by the Edinburgh Photographic Society of Edinburgh and district. The portfolio contains photographs taken in George Square Ward, which was selected to be dealt with first, and is the first instalment of what it is hoped will be a permanent pictorial record of the topography of the city and district, of all buildings of historical or architectural interest and of the social life and customs of the city.

The ground covered by the members of the Society of Architects during their visit to Belgium in 1891, when they were received by the then King of the Belgians (Leopold II.), is now the scene of so much architectural devastation that peculiar interest attaches to the Society's meeting to be held at 28 Bedford Square, W.C., on October 22, at 8 P.M. Mr. G. A. T. Middleton, A.R.I.B.A., the organiser of the tour in 1891, will exhibit lantern slides of the principal buildings then visited, and also some others showing the devastation caused by the German bombardment. The lecture is free to members and friends introduced by them, and a few invitations are available, so far as the accommodation will permit, for others who may be interested. Written application for these must be made to the Secretary.

The British Fire Prevention Committee in the organisation of the Special Fire Service Force, of which the Right Hon. the Earl of Londesborough, K.C.V.O., is the Hon. Commandant, is still short of fire surveyors (architects, surveyors, or insurance officers) for occasional fire survey in the South of England, home counties, and East Coast, and will be glad to receive applications at 8 Waterloo Place, London, S.W.

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The Committee have issued their Hospital Fire Warning No. 10, and copies may be obtained gratuitously by any hospital or convalescent home doing emergency work, or by any professional man in charge of hospital alterations or temporary buildings.

We learn that Messrs. Constable & Co. will publish shortly "Electric Cooking, Heating, and Cleaning," being a manual of electricity in the service of the home, by "Housewife" (Maud Lancaster), edited by E. W. Lancaster. This book, going deeply into the details of domestic service which can so readily and economically be obtained from electricity, is most profusely illustrated, and should be in the hands of all electricity consumers. It is strange, considering how universal the uses of electricity now are, to what a comparatively small extent the public appear to appreciate its many material advantages and services in the home itself. Readers of this volume will have open to them a new horizon of the possibilities of economy and comfort combined with cleanliness.

How to help in this war-time is the source of much ingenious thought, and Miss Edith Gaddum's effort is to exhibit her water colours in the Modern Gallery, New Bond Street, from October 14 to November 3, and devote the proceeds to the Belgian Relief Fund.

The annual report of the Glasgow and West of Scotland Branch of the Smoke Abatement League of Great Britain shows that in addition to the popular lectures which had been delivered in various parts of Glasgow lectures had been given by Bailie Smith in Coatbridge, Wishaw, Dumbarton, and Clydebank. The public had attended the lectures in large numbers. With regard to the lectures to firemen by the assistant smoke inspectors of the sanitary department, the report states that in two schools the attendance had not been sufficiently large to warrant the lecturers proceeding with the course for the winter, and those who had been enrolled were transferred to other centres. At a written examination held last month eight men from the advanced section and thirty-four from the elementary class presented themselves. Seven students from the advanced class and sixteen from the elementary class obtained certificates. The work of providing dust gauges for various towns in England and Scotland had been steadily going on, and since the last report had been submitted to the council forty-six gauges had been ordered, of which about one-half had been delivered. When the orders had been completed the League would be in a position to obtain accurate knowledge from the various centres in the kingdom not only as to the dustfall in each area, but also as to the composition of the material which falls into the gauges as analysed by chemists. The report recommended that the council should endeavour to assist in making a success of the Glasgow Corporation exhibition of gas appliances, and suggested that lectures should be given during the progress of the exhibition, and that these lectures should, for a year at all events, stand in lieu of the popular lectures.

WAR ITEMS.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received in the Board of Trade.

Australia.—In forwarding (August 28) a memorandum and statistical tables showing the comparative development of the import and export trade of Australia with the United Kingdom, Germany and the United States during the period 1905 to 1913, including particulars as to the tonnage of vessels of United Kingdom and German nationality entered and cleared at Commonwealth ports during the same period, his Majesty's Trade Commissioner writes: "Although figures presented in this way may at first sight appear somewhat bald, I think they are of distinct value, and should be of interest to any manufacturers who are seriously considering intensifying existing activities or initiating new business in this market; in particular Table III. (*b*), (*c*), and (*d*) is of great interest."

The memorandum and statistics may be inspected at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

Jamaica.—The Governor has forwarded a memorandum dealing with the import and export trade of Jamaica with Germany and Austria during the year 1913, which indicates the principal classes of goods of German or Austrian origin which have hitherto been imported into the Colony. The list includes beer, butter substitutes, china and earthenware, cotton hosiery, cutlery, glassware, bottles, haberdashery and millinery, hardware, steam agricultural machinery, chemical manures, musical instruments, matches, condensed milk, paper, perfumery, toys, wooden manufactures, and red wine, and indicates in each case the kind of goods most in demand. It is stated that it is difficult to ascertain exactly what proportion of goods sold in Jamaica is of German manufacture, as articles which are classified in the import trade returns of the Colony as emanating from the United Kingdom, being invoiced by British exporters without any indication of their origin, are found in many cases to bear the imprint, "Made in Germany."

The memorandum referred to may also be consulted at the Commercial Intelligence Branch, as above.

Dominican Republic.—His Majesty's Charge d'Affaires at Santo Domingo reports (September 15) that supplies of goods from Germany, which usually constitute about one-fifth of the total imports, have been cut off owing to the war, and it is believed that there exists a good opportunity for the United Kingdom to secure a large share of the trade hitherto done by that country. The total imports from Germany in 1913 amounted to £345,233.

Amongst the principal items were: Rice (£150,420), cotton manufactures (stockings, sheets, coverlets, &c.) (£37,700), beer in bottles (£24,240), iron and steel manufactures—including tools, cutlery, &c.—(£19,280), provisions—comprising meat and dairy products—(£18,220), manufactures of vegetable fibres—mostly sacks—(£17,630).

The following statement from a pamphlet on Cement issued by the Board of Trade Commercial Intelligence Department shows for a recent year the value of cement exported from Germany, Austria-Hungary, and the United Kingdom, respectively, to all destinations:—

	£
Exported from Germany (1912):—	
Portland cement, Roman cement, and hydraulic cements (tufa, trass, puzzolana, and puzzolana-sand, &c.) ...	1,723,900
Exported from Austria-Hungary (1913):—	
Portland cement, Roman cement, and other artificial cement	215,900
Exported from the United Kingdom (1913):—	
Cement for building and engineering purposes	1,273,100

In 1912 the value of Germany's exports of cement to the United Kingdom were valued at only £28,600, while no cement was exported from Austria-Hungary to this country.

The value of Germany's exports of cement to Colonial and neutral markets amounted to £1,444,850, or 84 per cent. of her total exports to all destinations in 1912.

The principal destinations to which the cement was exported, and the value of such exports in each case, were as follows: Brazil, £281,300; Netherlands,

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£249,700; Chile, £142,300; Australia, £133,800; Russia, £111,700; France, £56,800; Dutch East Indies, £55,700; Turkey, £50,900; Philippines, £40,300; Uruguay, £29,800; and Belgium, £28,900; while a fair trade was done with the United States, Portuguese East Africa, and India.

Austrian exports of cement are much smaller than those of Germany or the United Kingdom. Her principal markets in 1913 and the amount sent to each were as follows: Bulgaria, £16,600; Russia, £18,950; Turkey, £13,425; Tripoli, £11,920; Argentina, £18,400; and Brazil, £12,800.

It is clear that the United Kingdom holds a very strong position in British India, Ceylon, British South and West Africa, Egypt, and Argentina, while we do a fair trade with Spain; Germany, on the other hand, has a long lead in Australia, Netherlands, Brazil, and Chile, and does a large part of the trade in the less important South American markets.

In the smaller markets it may be said that Germany supplies the major part of the cement required in Western Europe, while Austria supplies that required in Russia, South-Eastern Europe, Turkey, and the Levant.

To sum up, it would appear that the maximum value of German and Austrian export trade in cement, which might, under present circumstances, be diverted to British manufacturers, is as follows:—

(a) *In the United Kingdom market*:—

	£
German trade (1912)	28,600
Austrian trade (1913)	—
Total	£28,600

(b) *In Colonial and neutral markets*:—

	£
German trade (1912	1,444,850
Austrian trade (1913)	109,080
Total	£1,553,930

making a grand total of £1,582,530.

Many other important particulars as to the demand for cement in certain markets abroad are given in the pamphlet, which should be carefully studied by manufacturers and exporters of Portland cement.

The following statement from a pamphlet on Boilers and Boilermakers' Wares issued by the Board of Trade Commercial Intelligence Department shows, for a recent year, the value of boilers and boilermakers' wares exported from Germany, Austria-Hungary, and the United Kingdom, respectively, to all destinations:—

Exported from Germany (1912):	£
Locomotive boilers and portable steam engine boilers of malleable iron ...	35,500
Other steam boilers of malleable iron with more than 10 similar tubes of a diameter of 300 mm. or less ...	190,500
Steam boilers of all kinds of non-malleable cast-iron	6,950
Single parts (spare and duplicate parts, &c.) for steam boilers and steam drums	36,000
Other steam boilers and steam drums of malleable iron	89,750
Mooring drums (buoys), gas and other reservoirs, receptacles, utensils, boilers (other than steam boilers) of malleable iron for factories, &c., riveted, pressed, welded, and composite parts thereof	372,050
Tube joints and fittings of malleable iron for steam boilers, steam drums, reservoirs and similar apparatus, &c. ...	426,400
Total ...	£1,157,150

Exported from Austria-Hungary (1913):	£
Wrought-iron boilers, forged, riveted, pressed	1,215
Steam boilers ready for use, with or without the fittings belonging thereto, and fitted thereon	8,860
Cisterns and tanks ready for use, with or without the fittings belonging thereto, and fitted thereon	18,810
Boilers of base metals and alloys thereof; moulds merely hollowed out; forged or rolled boiler ends and fireboxes; iron casks, &c.	8,250
	£37,135

As regards the United Kingdom, it may be said that complete particulars of our exports of such goods are not available. Boilers to the value of £1,773,200 were exported to all destinations in 1913, but similar details for other descriptions of boilermakers' wares are not separately recorded in the trade returns of the United Kingdom.

The value of boilers exported from the United Kingdom to all destinations amounted to £1,773,200 in 1913. It is not quite certain that the term boilers as used in the trade returns of this country covers exactly the same field as in the German returns. Probably it does not, but taking the available particulars as they stand the following comparison of the exports of "boilers" from the United Kingdom and Germany respectively to some of the principal markets served by the latter country may be of interest:

	From United Kingdom (1913).	From Germany (1912).
Exported to:	£	£
Russia	159,300	115,300
France	84,000	35,450
Chile	64,900	28,050
Netherlands	41,900	25,700
Argentina	92,100	22,250
Brazil	50,100	11,700

In each of these countries the United Kingdom has a considerable lead over Germany, and in present circumstances there would seem to be possibilities of extending the sales of British-made boilers not only in the countries enumerated above, but in a number of smaller markets all over the world, as indicated by the foregoing tables.

Other sorts of boilermakers' wares are not separately recorded in the trade returns of the United Kingdom, so that any comparison of German and British exports in this instance is impossible.

On the basis of the foregoing figures it would appear that the maximum value of export trade in boilers and boilermakers' wares which under present circumstances might be diverted to British manufacturers from their German and Austrian rivals may be summed up as follows:—

(a) *In the United Kingdom Market*:

German trade (1912)	44,650
Austrian trade (1913)	75
Total	£44,725

(b) *In Colonial and neutral markets*:

German trade (1912)	970,050
Austrian trade (1913)	27,880
Total	£997,930

Making a grand total of £1,042,655.

Italy.—H.M. Consul at Brindisi reports (September 21) that while large quantities of German and Austro-Hungarian goods are used in the Province of Apulia, they are not imported direct. Shopkeepers in the pro-

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vince do not carry large stocks, but order their goods in the north of Italy and in Naples. Large credits are necessary, and, owing to agricultural depression, there is some difficulty in collecting accounts. Generally speaking, the demand is for cheap rather than lasting articles. The chief German imports are electrical machinery, ironmongery, especially cutlery and enamelled goods, chemicals, drugs, patent medicines, perfumery, and stationery. Bentwood furniture and timber are largely imported from Austria.

LONDON COUNTY COUNCIL.

At the first meeting of the London County Council after the autumn recess the Chairman, Viscount Peel, in the course of a general survey of the work undertaken by the Council during the past year, briefly alluded to the various building and kindred activities which had engaged the attention of the various Committees.

Dealing with the working class dwellings under the control of the Council, his Lordship said that the gross rental for the year had amounted to £227.100, whilst the number of persons in occupation on March 31, 1914, was 37,569. A scheme for the development of the remainder of the White Hart Lane Estate, Tottenham, on the lines of a garden suburb for the accommodation of persons of the working class and others had been prepared and awaited the approval of the Local Government Board. No less than 4,552 persons of the working class would be displaced by the Tabard Street improvement, and dwellings to accommodate 2,580 persons would be erected on the cleared site.

The scheme for the completion of the approach to the Mall at Charing Cross necessitated a further widening at an estimated cost of £215.000 gross, or £115.000 after deducting recoupment, one-third of the net cost being contributed by H.M. Government and one-third by the Westminster City Council.

The Council had agreed to make contributions amounting in all to £129,226 in respect of minor and local improvements, the bulk of which would be executed by local authorities. The most important of these schemes were the widening of St. Martin's-le-Grand and Cheapside at an estimated cost of £155,000, and Leadenhall Street at an estimated cost of £90,000, the Council in each case contributing one-half the cost.

The number of applications dealt with under the London Building Acts, excluding the Amendment Act of 1905, amounted to 3,524, as compared with 3,139 in 1912, while about 5,300 dangerous and neglected structures were also dealt with, in addition to a large amount of work for securing the provision of adequate means of escape in case of fire from factory and other buildings.

COMPETITION NEWS.

London.—We understand that the County Council have received the report of Mr. J. W. Simpson, F.R.I.B.A., the assessor in the competition for proposed elementary schools at Battersea and Greenwich. The two first places have been awarded to Messrs. Wright & Chapman, of Newcastle, and Mr. Arnold Mitchell, F.R.I.B.A., of London.

London.—The Tottenham Education Committee are inviting the following architects to send in competitive designs for a school to be erected on the Vale Road site: C. E. Blackbourn, Tottenham; C. J. Dawson, Gracechurch Street; J. H. Gott, Westminster; A. J. Hardwick, Kingston-on-Thames; G. E. T. Lawrence, Buckingham Street; Lovegrove & Papworth, Old Street; A. Mitchell, Hanover Square; C. L. Morgan, New Southgate; E. C. P. & H. Monson, Finsbury Pavement; Spalding & Myers, King Street; D. W. Stewart, Tottenham; Withers & Meredith, Cannon Street; Young & Hall, Southampton Street; and H. A. Cheers, Kensington. Fifty-one applications were received.

Salford.—In connection with the architectural competition for the new consumptive sanatorium at Nab Top, Marple, the Health Committee of the Corporation have appointed Messrs. Sankey & Cubbon, of Manchester, as architects, who have also been awarded a premium of fifty guineas. Similar premiums have also been awarded to Messrs. J. Holt, Albert Square, Manchester, Mr. J. T. Proffit, Mount Street, and Mr. Henry Lord, Deansgate, Manchester.

Sheffield.—The City Council considered on Wednesday last a proposal to obtain competitive plans for a new building for the Electricity Department proposed to be erected at a cost of £42,000. It had been previously resolved by the Electric Supply Committee that an open architectural competition be arranged, and that the author of the successful design be employed to carry out the work, with remuneration on the basis of the R.I.B.A. scale. Premiums of £150 to the author of the design placed second, £100 to the third, and £50 to the fourth were to be offered. The Corporation at their meeting referred back for further consideration an amendment to restrict the competition to local architects.

ILLUSTRATIONS.

"FURTHER BARTON," CIRENCESTER.

This illustration shows the new wing recently carried out with other alterations and additions to "Further Barton," an old stone-built mansion near Cirencester, and is from a pencil drawing exhibited in this year's Royal Academy Exhibition by Mr. A. N. Prentice, F.R.I.B.A., architect. Local stone was used for the walling; the mullioned windows and other dressed parts were carried out in Combe Down Bath stone. The roofs are covered with local stone slates.

Messrs. Spear & King, of Crowthorne, Berkshire, were the general contractors.

MALINES.

The picturesqueness of Malines as Samuel Prout saw and drew it was not confined to church, town hall, and other public buildings, but extended to the ordinary street architecture of the old town as in the view from the Kraen Strate which we reproduce.

WROUGHT-IRON GATES AND SCREEN, CARSHALTON PARK, SURREY.

This fine piece of ironwork comprises carriage and wicket gates and screen railing. The gates themselves are of one height and the same design. The gate piers are of wrought iron, and are four-sided, fashioned to represent fluted Doric columns on pedestals, and these piers are finished with a crown of eight bent bars, terminating at the top in a heavy cast and turned knob.

The head of the gateway is formed of a horizontal band of eight panels of scrolled bars, with masks of fauns between. The two inner gate pilasters run up through this, and have richly ornamental lyre panels. These pilasters finish with arched tops and three solid turned vases. The centre gates are surmounted by pyramids of ornamental work, enriched with water leaves and bay leaves, while in the centre is the Scawen shield of arms, and the crest finishes the topmost point. The side gates have lesser pyramids, containing the monogram "T. S." in circles. The gates are of plain uprights, with scrolled lock rails and fringe above, and have scrolled and arrow-headed dog bars. On each side is a bay of railing, enriched in the centre with a pyramid of scroll work and connected at each end to the other work by an ornamental ramp. Next to this bay is a high pilaster of heavy bars, with panel of lyre design and enrichments, solid cap, and scrolled finial again finished with three solid vases. After this is a larger bay of railing, with a simple scrolled pyramid in the centre. These railings are set upon a stone base. The whole range of ironwork is 113 feet 1½ inches in length, and stands between two fine stone piers 17 feet high, with carved work on the face, and having on top lead figures of Artemis and Actaeon respectively.

The work is generally supposed to be by Thomas Robinson (who was the first smith after Jean Tijou to adopt a distinctive English style, and whose first work of importance was the railings in the Morning-prayer Chapel in St. Paul's Cathedral, 1697), and dates from between 1712 and 1723. It was made for Thomas Scawen, Esq., whose arms and monogram are incorporated in the design.

Our illustration is from a measured drawing submitted in "The Architect" Sketching and Measuring Club by "Ebor," and which was awarded a prize.

WROUGHT-IRON GATES.

The drawing by Mr. Leslie Matthews shows a pair of wrought-iron gates of German handicraft dating about 1650 A.D. now in the Victoria and Albert Museum, South Kensington.

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THE CATHEDRAL OF RHEIMS AND WAR.

By Philip J. Dear, M.A., Oxon.

Lowell wrote:

Looking up suddenly, I found my eyes
Confronted with the minster's vast repose.
Silent and grey as forest leagured cliff
Left inland by the ocean's slow retreat,
That hears afar the breeze-borne note and longs,
Remembering shocks of surf that clomb and fell.
Spume sliding down the baffled decuman,
It rose before me, patiently remote
From the great tide of life it breasted once,
Hearing the noise of men as in a dream.
I stood before the triple northern port,
Where dedicated shapes of saints and kings,
Stern faces bleared with immemorial watch,
Looked down benignly grave, and seemed to say,
Ye come and go incessant; we remain
Safe in the hallowed quiets of the past;
Be reverent, yé who flit and are forgot;
Of faith so nobly realised as this.
The Grecian gluts me with its perfectness,
Unanswerable as Euclid, self-contained,
The one thing finished in this hasty world,
For ever finished, though the barbarous pit,
Fanatical on hearsay stamp and shout
As if a miracle could be encored.
But ah! this other, this that never ends,
Still climbing, luring fancy, still to climb,
As full of morals half divined as life,
Graceful, grotesque, with ever new surprise
Of hazardous caprices sure to please.
Heavy as nightmare; airy light as fern,
Imagination's very self in stone.

Sir Thomas Jackson of it writes: "It was the very crown of French Gothic; the apse and chapels of Jean d'Orbais set the pattern for all that followed, and have never been surpassed." "This is how we must do the work at Cambrai," wrote Wilars de Honecort on the sketches he made of them. The sculptures were unrivalled even by those at Chartres, the clerestory was filled with glass, glorious like that at Bourges, Canterbury, and Chartres. All, nearly all, this must be lost. The glass must be blown out, the statuary shattered and defaced; its ruin was simply an act of brutal savagery to glut the rage of an invader disappointed of conquest. As a fact, the damage done is not so great as appeared from the reports at first; from the official account the vault does not seem to have fallen; the roof took fire, perhaps from the scaffolding for repairs to the building; straw inside also caught, and the injury is rather that of heat than of actual violence, unless the second bombardment did more. One could hardly believe that it was intentional were it not for the excuses offered for it; it is urged that the towers were used as posts of observation, and that in consequence the French artillery fire was more accurate than usual. A writer in the *Times* said that people did watch the progress of the battle from them, no doubt with glasses; and how could this be told miles off from a military outlook? It was just a jump to a conclusion. Are all the art treasures of the world to be at the mercy of such surmises? Is it to be left to any ignorant, and perhaps befuddled, commander who has got troops into a position of disadvantage to decide whether buildings of world-wide interest are to be ruthlessly injured and needlessly destroyed? To this the answer is given: "The Kaiser and the Chancellor Herr von Bethmann Holweg are lovers of the art treasures of the human race. Duke Albrecht of Würtemberg, too, the Commander-in-Chief, is a good Catholic and would not without the most stringent necessity have given his consent to the destruction of one of the most famous monuments of the Roman Catholic Church." Had there been one word of sorrow, one phrase of regret, we might have believed that some mishap, some mistake, had happened; but it was proclaimed in Rheims: "The leading citizens have been seized as hostages by the Commander-in-Chief of the army; these hostages will be hanged on the slightest attempt at disorder. The town also will be wholly or partly burnt, and the inhabitants will be hanged for any infraction of the above." The troops are provided with special means of incendiarism, premeditated and prepared with all the skill of science; flaming discs, which run about of themselves, like the firework called a "serpent." An ideal was set up by the Emperor fourteen years ago: "Whoever falls into your hands is your victim, just as 1,000 years ago the Huns under King Etzel (Attila) made a name for themselves which is still mighty in tradition and story. Above all you must inflict on the inhabitants of invaded towns the maximum of suffering, so that they may be sick of the struggle." As Bismarck said, "In every case the principle which guided our general was that war must be made terrible to the civil population, so that it may sue for peace." Heine's prognostication has been literally fulfilled: "Christianity—and this was its highest merit (some national conceit comes in here)—has in a degree softened, but it could not destroy that brutal German love of battle; when once the taming talisman, the cross is broken, the savagery of the old fighters, the senseless, Berserker fury of which the northern poets sing and say so much will gush up anew. Then the old stone gods from the silent ruins will arise and rub the dust from their eyes; Thor, with his giant hammer, will at last spring up and shatter to bits the Gothic cathedrals."

Yet why all this in an artistic paper? Architecture lives serene beyond the cries of politics, the bustle of the world, the noise of war; but Sir Thomas Jackson says: "Where is it to stop? Noyon is not safe; Laon, with its stately nave, is at the enemy's mercy; St. Quentin, with its fine church and hôtel de ville, lies in the path of his retreat," and there is no warrant as to the extent of his barbarity. A solemn protest is needed from all art-lovers of the world; above all, it should be put forward clearly that as a condition of peace "Every brick injured must be paid for, every shanty destroyed must be replaced," for highly as we value these lovely buildings, irreparable as their statues and glass paintings may be, Ruskin's words should ever be in mind, "If we loved God's image in the flesh more, perhaps we might trouble less about His images in stone."

The last, the deepest, insult, perhaps, is the reparation we are promised for all this; a Palace of Peace à la German, a sort of mongrel between the tawdry new cathedral at Berlin and the parliament house there, no doubt, is to be built, which will make up for and excel all the monuments of the past, and hold out a hope of future happiness and content under the sway of a paternal government which threatens to hang peaceful citizens for the doings of others.

Colonel Simpson, in the *United Service Magazine*, lays down the code of war as accepted by the chief authorities, "No collective penalty, pecuniary or otherwise, may be inflicted on the population because of acts of individuals for which it cannot be regarded as collectively responsible." At The Hague Conference of 1907 Baron Marschall von Bieberstein, on behalf of Germany, declared that "conscience, good sense, and the sentiment of duty imposed by the principles of humanity will be the surest guides for conduct, and will constitute the most effective guarantee against abuses." So far as the people go by our acts we have made the most complete protest; for the buildings perhaps something may be achieved; the great Republic of America might well take them under her protection, and, indeed, is said to have done so in the case of Brussels. Italy might speak, by common consent, as the mother of the arts; and in saving the buildings we might perhaps to some extent save the people also. Mr. Richard Harding Davis, the well-known war correspondent, in the *Tribune*, says of Rheims: "The German contention that French batteries were placed so that they were unable to shell them without hitting the town is ridiculous and impossible." The impression one gets from his article is that the Germans deliberately aimed at the city and the cathedral in the hope of terrorising the population, and even from their own proclamation we learn that the threat of hanging and burning was "for the purpose of calming the people." Under such conditions we not unnaturally prefer to build our own Palace of Peace and ensure for ourselves that it shall be real and enduring; a palace of truth, and not one of bombast and lying deceits.

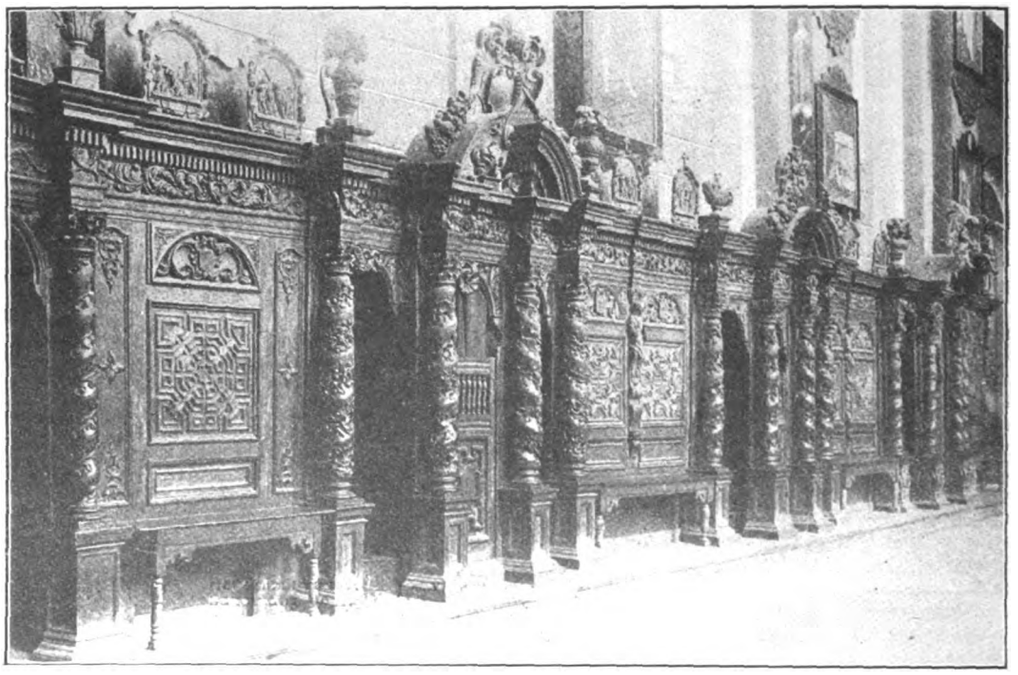
CORTENBOSCH.

By John A. Randolph.

At nearly half-way between St. Trond and Hasselt, and practically within sight of Haelen and Geet-Betz (made famous for all time by the fierce battle of last August), lies the small village of Cortenbosch, with its farms, cottages, and orchards on both sides of the road, a quarter of a mile long, leading straight from the station to the church, whose remarkable steeple dominates the road.

But, small as is the village, and poor, it possesses a great treasure for the antiquary, and the fine tower, with

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daring spire, is one with which architects would be gladly acquainted, as it is one of the most refined and elegant specimens of the Renaissance period in Belgium.

On arriving at the end of the road, the church stands at right angles right across it, with a narrow, cobbled roadway running round most of it. Instinctively the visitor makes for an entrance at the tower end, on his right, only to find that the steeple—very unusually—stands at the eastern end, at the foot of it being a Calvary.

Turning to the left, therefore, he finds a cluster of stately trees in front of the church, inside the low enclosure-wall and railings, and the finely proportioned, though not large, church, which is of dullish red brick, the long, round-headed windows being sunk in deeply recessed arches rising practically from the ground, the same arrangement, but with arches less deep, holding good for the twin windows of the transepts. These deep recesses apparently serve the purpose of buttresses, of which the structure has none.

The transepts are shallow, but without gables, the roofs sloping back to the nave's. The absence of gables at the side of the church is atoned for by the fairly elaborate and decidedly pleasing western one, with projecting porch, and bands of white stone at intervals decorating its upper portion, as well as the tower, thus imparting a touch of Dutch influence, as at Moll, Turnhout, and Aerschot.

As will be seen by the illustration, the tower is of considerable height, and is crowned by a slender and graceful spire which is twice divided by an open space, and flanked with tenuous corner slate-covered pinnacles. The effect, as seen from the train on leaving the station towards Hasselt, is singularly picturesque, and, with the sun near setting on a late spring evening, in a clear sky, the structure seems to be more of the fairy-like type than of a material nature.

But that is not the be-all and end-all, for the architect and antiquary, of this singular edifice, which is a celebrated shrine of pilgrimage for Belgians.

On entering, one is at first struck by a striking and cleverly wrought "life-size" model of a tree in leaf, in copper, with the miraculous statue of the Madonna among the foliage. At the foot is an altar and its necessary adjuncts, the whole warded off by a low colonnaded copper railing on marble plinth, at which the pilgrims kneel at their devotions. The high altar and, indeed, the whole choir and chapels are all in keeping, in elaborate Renaissance, and there are a few pictures and statues and a good pulpit of wood, much of a pattern with those met with in large parish churches elsewhere in Belgium.

There is yet more—and, from the architect's point of view, of vastly greater importance—in the church. The nave walls are lined with superb oak panelling and carving, and ten magnificent confessionals, with seats between, two of which, but less ornate, being against the west wall on either side of the door. All the carving at each confessional is different, and the fretwork of the little square shutters on the penitents' sides of their middle compartments is very reminiscent of Indian workmanship, both as to design and delicacy of execution.

Note the Way of the Cross above the panelling and cornice. This unique treasure was originally in the great Abbey Church of Averbode, near Hasselt, and the house opposite the church is the residence of two reverend Fathers



of Averbode, whom the Abbot appointed to take charge of the Mission and thus be able jointly to recite the office each day, according to the rules of their Order.

I had announced my forthcoming arrival there for an evening at the end of April from Hasselt, and had asked if I could, in the short half-hour at my disposal, inspect the church, so was pleased to find both the reverend Fathers, in their white habits, coming forward in the roadway as I turned the corner by the church from the station road,

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and I received a most kindly welcome, the more so for having travelled so far, and for speaking Flemish and showing I knew something of their great Averbode Abbey. I had come from Huy and Tongres.

The beginning of the winter of 1637 saw the erection, by some pious folk of St. Trond, of a small chapel of reeds, and soon after of bricks, round the little statue of the Madonna, which had been given, in 1636, by a Friar Minor to a devout widow, Elizabeth van Outeren by name, who had placed it on an oak tree on the outskirts of a forest there, whence the village took its name. The place was infested with robbers at the time, and people came to pray to Our Lady there, on their passing along the dangerous road, for protection. The lady was the widow of a burgomaster of St. Trond.

In the course of the first year after the placing of the statue, several had received favourable answer to their prayers, and pilgrims became more numerous, thus necessitating the erection of a shelter for them at their devotions. As, after the brick structure had been finished, many wished to have Mass said therein, Father Van Cosen, in whose parish Cortenbosch lay, obtained the requisite permission from his Ordinary, the Bishop of Liège, and the first Mass was said there on July 2, 1639, before an immense concourse of pilgrims.

About this time Prince Ferdinand, Archbishop of Cologne and Prince-Bishop of Liège, living at the time at St. Trond, came, with his suite, thrice to Cortenbosch as a pilgrim.

Father Van Cosen was unable alone to minister to the spiritual needs of the ever-increasing multitude of visitors, so the Abbot of Averbode appointed two of his monks to help him, one as Rector, the other as Penitentiary. With the Bishop's permission the Abbot (Nicolaus Ambrosii) built a large church instead of the chapel, but did not live to see it completed. His successor, Servatius Vaes, finished the building, which was consecrated by Bishop Richard Stravius, coadjutor Bishop of Liège, on May 1, 1648.

That is the church which now stands, and the miraculous statue was solemnly crowned in 1898 by Mgr. Rinaldini, Papal Ambassador at the Court of Leopold II.

Every seventh year since then the Bishop of Liège pontificates with great solemnity over the Coronation Commemoration Festival, a huge concourse of faithful attending from all over the neighbouring provinces.

I have not seen Cortenbosch mentioned in any accounts of the fighting in those parts, and so conclude that, though within a couple of miles of the slaughter, the shrine and church were miraculously protected.

The inn accommodation at Cortenbosch is of a very scanty description, and one wonders how the great concourse of pilgrims fares on such occasions, as well as during May and the many great days "kept" there throughout the year. Possibly they make for St. Trond or Hasselt, after their devotions, to look after the more material needs of the inner man. Cortenbosch will certainly bear visiting more than once.

THE PAINT AND VARNISH SOCIETY.

The opening meeting of the Session of the Paint and Varnish Society was held at St. Bride's Institute, Bride Lane, Fleet Street, E.C., on Thursday, the 8th inst. A discussion was inaugurated with the following paper by Dr. F. Mollwo Perkin, Ph.D., F.I.C., F.C.S., on "The Possibilities of the British Paint and Varnish Trade owing to the European Situation."

The paint and varnish trade draws its raw products from practically all parts of the world; consequently it cannot help being very largely affected by the colossal war which is at present being waged. Although there may be, at the present time, many and great difficulties in obtaining raw material, and thus in fulfilling and taking on new contracts, the dreadful upheaval may, in the long run, be of the greatest value to the British paint and varnish industry, provided that the manufacturers and users have sufficient foresight, energy, and initiative. The war will undoubtedly cause a national stocktaking. It should cause the manufacturer to ask if it is not possible to obtain many of the raw materials which are required in our industry from British sources, and treat them, or partly treat them, in Great Britain, thus introducing new industries.

Many manufacturers probably find themselves in a position of considerable difficulty owing to the withdrawal of supplies of raw material or of partly finished products, and they are therefore unable to meet the demands of the users. Might one not suggest the employment of new products hitherto not used, or which have, up to the present, only been employed in very small quantities? I am quite aware that there is very great conservatism amongst the trade and users, but it is up to the Paint and Varnish Society to show that when one medium fails another can be used.

An examination of the Board of Trade returns for 1913 shows that our imports of paint material from foreign countries far outbalanced our exports. The following are the amounts of some paint materials imported during 1913:—

	Cwt. imported.	Value.
White lead	321,323	£362,913
Red lead	60,880	63,229
Zinc oxide	368,669	429,115
Barytes	1,092,645	150,376
Unenumerated	918,162	837,589
Total	2,761,679	1,843,222
The imports from Germany alone were:—		
White lead	139,701	£157,390
Red lead	56,995	58,978
Zinc oxide	136,687	163,013
Barytes	805,559	115,351
Unenumerated	379,924	484,253
Total	1,518,866	£978,985

Compared to the above, the imports from British Possessions make a very poor show:—

		£
White lead	Nil.	Nil.
Red lead	26	30
Zinc oxide	229	203
Barytes	Nil.	Nil.
Unenumerated	10,939	18,438
Total	11,194	£18,671

Of course the high imports of most of these products are due to the distribution of the minerals themselves; although, as I shall show later, we are not devoid of the raw materials in this country, and in many cases they could be obtained from our Dominions over the seas. German thoroughness and business methods—the latter of which are not always to be recommended as a standard for copying—have, however, also largely contributed to the ascendency of German trade.

It is interesting and illuminating to compare our exports of the same articles with our imports to foreign countries:—

	Cwt.	Value. £
Red lead	554	589
White lead	421	539
Zinc oxide	2,436	3,287
Barytes	233	39
Unenumerated	18,046	20,346
Total	21,690	£24,800
Exports to British Possessions:—		
Red lead	2	2
White lead	21	56
Zinc oxide	1,918	2,610
Barytes	853	108
Unenumerated	3,703	4,942
Total	6,497	£7,818

If we had the trade returns of the different Colonies, we should find the preponderating influence of Germany in the supply of painters' colours to be on very similar lines to the imports into Great Britain.

Some of the minerals required for the above products are mined in Great Britain and Ireland. For example, in 1911 (the latest obtainable returns) the following quantities were mined:—

	Tons.	Value. £
Barium compounds	44,118	40,386
Lead ore	23,910	219,314
Zinc ore	17,652	82,690

By the falling-off of foreign competition it might be possible to increase these supplies, but probably not sufficiently to meet the demand. On the other hand, much of

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the raw material might be obtained from our Colonies. For example, in 1911 Australia produced 516,390 tons of zinc and zinc concentrates, valued at £1,415,169. A portion of this might be converted into zinc white in Australia and shipped to Great Britain, or the metal shipped to the United Kingdom and worked up here. At present, however, a large portion of the Broken Hill zinc is imported by Germany. This trade should be easily diverted to the United Kingdom.

The paint and varnish trade is dependent upon such a large array of products that it is difficult to know which to mention and which to leave unmentioned. There are not only the pigments, but also the mediums. The bulk of the latter must necessarily come from foreign countries and from our Colonies.

Why should we not make the red lead we require in this country? At one time English red lead was said to be superior to any red lead on the market; why, then, do we import such large quantities?

It is a pity that in the Board of Trade returns so many pigments are lumped together under the heading, "Unenumerated," as this makes it difficult to ascertain the imports or exports of individual products. As, however, I have been asked not to give a paper, but to initiate a discussion, I hope that makers and users who are present will state what they know, and it may then be possible in some cases, by putting their heads together, to devise means for establishing works in this country and thus producing certain articles for which we have, in the past, been practically dependent upon Germany and other countries. Take, for example, ultramarine; there is very little made in this country. It is by no means easy to make, and requires considerable skill, but there is no reason why we should not make it in large quantities. I understand that the Germans have put it in at a price which makes it almost impossible for English makers to compete. Yet we have the raw materials: Kaolin, sodium carbonate, sodium sulphate, charcoal, sulphur and rosin, and these materials are not more expensive here than they are in Germany. In fact, kaolin should be cheaper, because Germany is a large importer of Cornish kaolin.

Discussion.

Dr. M. Bennett Blackler, in commenting on the above short paper, said he did not think Dr. Perkin had spoken quite strong enough. Personally he considered the present position to be a very strong indictment against British industry. In many cases from small beginnings and by hard work the Germans have, during the last ten years or so, built up an industry which we of this country ought to have had. Unless our efforts are based upon research work and a clear conception of what is necessary German competitors will take away the entire trade. We have neglected those preliminaries for forty years. It would be necessary, therefore, to go slowly so as to build up a sure foundation. Even if the worst happened to Germany she would continue her industrial competition by creating branches in America, and so send goods here as before.

Mr. T. A. Davidson opined that now was the opportunity for the chemist. They had had an object-lesson in the earnest, indefatigable way Germans have gone about their work. In this country chemists have been, and are, rather at a discount. Many firms seem to regard chemists as a luxury. That is, of course, quite a mistaken idea. Every business must be raised up on sound principles. Results of such policy may not be obtained for a year, or even two years. Now, however, was the time when manufacturers should recognise the fact that they have neglected their opportunities. Now was the time and tide which should be taken at the flood. In any event the German business houses would, after this war, have practically to start over again. The consumption of money has been so great that it will take a long time to make good.

Mr. J. Cruickshank Smith remarked that the events of the last few weeks had driven them to consider what were raw materials. One manufacturer would call a certain thing a raw material which another manufacturer called a finished product. Raw materials might be described as those unobtainable in this country. In Great Britain alone there were large deposits of sulphate capable of being worked up. It was obvious that we had not in this country deposits of lead sufficient for our needs, but they could be supplemented from British possessions. The reason why colour and pigment makers have been purchasing German-made red lead is that from their point of view it is a better product; there was no reason why this should be so. But the German manufacturer supplied exactly what was wanted. It was to be hoped that that would be altered. There were in this country all the natural constituents for making Prussian blue, with the exception of potash, also the fundamental raw materials for making aniline dyes were in this country. The engineering part of industrial chemistry must be brought up to date.

Mr. Toch (U.S.A.) said he felt this country had let go very important chances which it had had. For example, we were much to be blamed for allowing the aniline-dye industry to pass out of Great Britain. Little by little the United States trade with this country had dropped off until the only articles imported by them from us were the oxides. Yet he believed that if Great Britain was ready to offer America anything from aniline to red lead they would be ready to buy it from here. Concerning the point of employing chemists, he might say that years ago his father foresaw the time was coming when paints would no longer be made by rule of thumb. His firm had now a great number of young men working in the laboratory, and they considered them justified. If English paint and varnish manufacturers would take in hand earnestly this question of the new possibilities of the trade arising out of the political situation, they would be able to get all the trade they wanted, and more. The preference of the United States would be to place their business with Great Britain.

Mr. J. R. Thornbery argued that the trade of this country had been built on sound grounds. That they had not been able to capture everything was not their own fault so much as that of the lack of possible workers. Previous speakers who had referred to the large numbers of chemists employed by German paint firms had not mentioned the wages those chemists received—he understood it was not much more than that of a car (not "taxi") driver. Undoubtedly the whole standard of education was higher in Germany. He did not think it would be possible to taboo German goods. That subject was an economic one. He would merely say that if manufacturers were not going to use the materials which were obtainable at the lowest prices there would be no factory at all. Certain things must be looked straight in the face: there was an awful lot of nonsense talked as to this taboo. English manufacturers had not made the things of which Germany possessed a monopoly, simply because they had been as busy as they could be without them, and had devoted themselves to producing the things they could do best, and out of which they calculated to make the most profit. He failed to believe that German factories paid better than British factories, and he had yet to be informed that the German workman is better looked after than the British workman. If they undertook the production of these German "lines" it would simply mean a shifting of energy. A lot of this talk originated in a desire of some people that someone else should make something which it would not pay them to make. It was undeniably disastrous to have lost the aniline industry. But he would ask, "Who was going to embark the colossal capital necessary for the proposed expansion?" The German paint industry was not going to be permanently blotted out. He might add that "all the butter" was not on the side of Germany. For example, workers in this country of ours had something better to do than to make ten tin soldiers for one penny.

Mr. Jones (Bristol) supported the argument that many of the things now made in Germany would not be a paying proposition for us to make. Germany exports pig iron, which are returned to them by us worked up. He felt that the English paint trade was largely to blame for the present situation, because they demanded the very cheapest raw materials; and, he expected, they would continue to do so. Retail paint sellers would not purchase from English makers if they could obtain cheaper elsewhere.

Mr. A. Vickers raised the financial side of the question, and more particularly the attitude of our banks. Would a manufacturer, he asked, get a hearing from an English bank if he said he required a loan for the purpose of making zinc oxides? In Germany, on the other hand, the necessary money would be found at once. It was the methods of finance prevalent in Continental houses which enabled their rivals to do so much.

Mr. Dewer thought a great deal of the success won by Germany was traceable to their pushful methods.

Mr. C. Harrison pointed out that the most successful works in this country have started from small beginnings.

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[Photograph by R. L. Warham.

76 & 78 HAMPSTEAD WAY, HAMPSTEAD GARDEN SUBURB.—Mr. Geoffry Lucas, F.R.I.B.A., Architect.

English paint manufacturers really only assembled together a number of finished products and called the result paint. It would not pay them to make those products. If a man set up to make paint and varnish he would not make fine paint and varnish. Therefore he made that which paid him best. In starting a new industry the conditions have to be considered. At present there were restraining regulations on every side.

Mr. John Lewis said the question was really one of Tariff Reform, and what was going to be done in the future to protect British manufacturers. No manufacturer would feel inclined to lay down thousands of pounds if he was not going to be protected.

The discussion was adjourned until Thursday, October 29.

HOUSING IN COTTON MANUFACTURING DISTRICTS.

Professor J. Radcliffe (Manchester) introduced the question of the shortage of houses in the cotton manufacturing districts at the Blackpool Congress of the Royal Sanitary Institute. The following is an abstract of Professor Radcliffe's paper:—

The problem of housing accommodation in the thickly populated centres included in the cotton manufacturing area of Lancashire and adjoining counties has recently received considerable attention by those who are responsible for the maintenance of satisfactory conditions relating to public health.

The matter has been forced upon the local authorities by people who are not able to obtain suitable houses in which to reside; so that houses unfit for human habitation continue in use.

The small number of empty houses of the right kind; the difficulties experienced by the lower wage-earning classes in obtaining houses; the many instances of overcrowding; and the occupation of houses of an unsatisfactory character by people who would live under better conditions if they had the opportunity, are sufficient proof that a scarcity of housing accommodation exists. The difficulty is not confined to any particular centre, but exists, in a varying degree, throughout the area under consideration.

Owners refuse to let houses for occupation by large families, so that, frequently, considerable hardship is experienced by parents and children who desire to live under healthy conditions. This is not a question of the amount of rent, but a strong objection on the part of the owner to let houses for large families; and the demand for houses is such that he has no need to accept tenants of that kind.

With certain exceptions, the employees engaged in the various branches of the cotton industry, and in trades associated with it, earn good wages and live in houses of a very creditable description, where comfort and cleanliness are first considerations. In the lower grades of employment, the wages earned are not such as will permit the payment of high rents, so that small houses are in demand; but the character and condition of the dwellings are generally quite equal to those of the larger houses. In many thickly populated districts the houses are old and the general conditions unsatisfactory, but unfortunately the people do not desire to change, as they have become accustomed to the neighbourhood, whilst the rents are considered low, and the situations are within reasonable distances from the factories, so that meals may be obtained at home with other members of the family. Houses of this class are eagerly sought for, and empty houses are very scarce. The average employee in a factory strongly objects to travel long distances, especially in the early morning, and in the evening during the winter months after working in the hot factory for a period of ten hours. At the present time there are, however, many instances of men and women who leave their beds at half-past four in the morning to catch early trains and trams to go to places where good work is obtainable at a higher rate of pay than where they reside. In answer to the question, why they do not reside near their work, it is often stated that houses cannot be obtained, or that they are not sure the work will be of a

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permanent character, or that other members of the family are engaged near where they reside; the real answer is in any case scarcity of houses.

It is useless to blame tenants or owners of property for this, or to place the responsibility upon the local authorities. The existing conditions have arisen gradually, and are the result of the development of several forces acting on distinctly separate lines.

During recent years there has been a large increase in the number of spindles and also in the number of looms employed in the manufacture of cotton..

The contention that the large increase in the number of spindles and looms is responsible for the shortage of houses is not altogether justified, though many persons have been attracted from the country to the towns by the possibility of higher pay than they have usually received.

The efforts made to improve housing accommodation have not supplied the demand, but have tended principally towards the elimination of undesirable property, and not towards an increase of desirable dwellings.

The attempts made by local authorities to improve the housing accommodation for the cotton and other operatives have seriously reduced the number of houses available for their purpose.

The cellar dwelling has gone; the number of small two-roomed houses has been reduced, and many larger houses of the older type have passed out of existence. Houses that have been built by local authorities and private individuals under modern by-laws are too costly for the use of the operative, and frequently too large for small families. Thousands of instances might be given to show that two-roomed houses under proper conditions are sufficient to satisfy the requirements of tenants who are engaged in the cotton industry, and on work of a similar character; they have no use for large houses, even if they could afford to pay for them.

The ordinary law of supply and demand does not apply in this case, as the demand for houses has increased, but the normal supply has diminished largely owing to the causes referred to above. Land is available in suitable positions at reasonable prices for the construction of new houses, but the opportunity is not accepted. Many reasons are advanced why this form of investment of capital is not attractive. The cost of materials and labour has increased. A block of cottages erected seven years ago cost one hundred and thirty pounds per house. Recently, tenders were obtained for a proposed additional block adjoining the first, and similar in every respect; the lowest tender, which was not accepted, amounted to one hundred and sixty pounds per house.

The uncertainty regarding local and national taxation is another factor that cannot be disregarded by investors in this class of security. The people who are the real ratepayers desire more to be spent on the improvement of local conditions and on public services. The money for the purpose must be obtained, and therefore an increase of rates and taxation is necessary. Higher rents payable by the occupier means higher assessments, so that the owner of cottage property cannot improve his position without at the same time improving that of the rating authorities; he must therefore take that side of the question into account when considering advancement of rent payable by the occupier, who has strong objection to the payment of higher rents, as his means are very limited. A person who earns twenty-four shillings per week, under existing conditions and the present price of commodities, cannot afford to pay more than three shillings and six pence per week for rent of house. Wages have been increased, but the prices of real necessities have also increased.

The contention of the housing reformer, that as new houses of moderate size are erected and the smaller houses are reduced in numbers, the occupants, or lower wage-earning classes, would move from the small houses into the old but larger houses, has only been partly realised. Insufficient new houses of the kind referred to have been built, and in many cases where small houses have been thrown out of use the people displaced have joined in the occupation of large premises, so that the actual conditions in such cases have not been improved, the community continues to suffer great physical loss in health, and our towns are less desirable they they ought to be.

The outlook regarding the housing of the lower wage-earning classes is very discouraging, and a difficult problem for local authorities to deal with. Everybody knows that the ownership of cottage property means constant worry and anxiety to those interested, but many would undertake the responsibility if the return on the capital invested was reasonable, but it is not at the present rents.

Experts whose opinions deserve careful consideration, and who have made exhaustive investigations, contend that there should not be less than 2 per cent. of empty houses (suitable and of the kind required) in a district occupied by the lower wage-earning classes.

Private builders will readily, and do frequently, erect houses to meet the wishes of persons who desire to invest their savings in that class of security; but the investor provides for operatives of the better class, who are prepared to pay regularly rents which yield a reasonable return on the investment. There is no real reason why local authorities should undertake the erection of houses of that class, and enter into competition with private enterprise. High rates, heavy local indebtedness, and more pressing need in other directions are sufficient reasons for leaving the provision of that type of house to those who are prepared to provide it.

Local authorities should endeavour to relieve the congestion that exists in the towns, and encourage the spreading of the population over a wider area, by devoting their attention to the improved housing of the lower wage-earning classes, and others with large families, who cannot obtain suitable accommodation. It will not be directly a profitable investment, but many advantages may be expected to result in other directions. The amount of rent receivable should not be a first consideration. The selection of a site suitable for dwellings of this kind ought to receive attention from a generous and wide standpoint. Easy communication with the sources of employment, proper sanitary conditions in the widest sense, and constant supervision are essential features of a scheme intended to relieve the difficulties which now exist.

Local authorities may easily obtain powers to acquire suitable land for housing purposes when it can be shown that a shortage of housing accommodation exists. If the repayment of loans for the purpose is spread over a long period, that may assist to make the scheme a successful undertaking.

The land may be let at low rates for development, and money may be advanced for the purpose of building houses to builders, or other private individuals, on the lines required by the local authorities; or the houses may be built by contractors for and in accordance with designs provided by the local authority; or the scheme may be carried out entirely by the local authority. The method first mentioned is the most economical, and the latter will undoubtedly prove the contention that corporations and district councils cannot erect houses of this kind so efficiently or economically as a private builder who is accustomed to the work. The cost should be kept as low as possible, and the houses must be offered at low rents as an inducement to the class of individual concerned to leave houses of an unsuitable description. Many suggestions have been made so that the rent may be such as the poorer classes can afford to pay, including: preparation for an annual loss on the undertaking, reduced tramway charges, and preferential rating; but those proposals should not be entertained, except as a last resort. Economy should be practised to the fullest extent, and an effort must be made to prevent loss to the ratepayers. Houses of the kind referred to, when occupied by tenants that are now difficult to deal with, require constant and efficient supervision to obtain satisfactory results.

Unfortunately, there are amongst those who have control of local affairs individuals who are financially interested in houses the character of which is far from satisfactory. The pressure of higher authorities should not be necessary to secure houses fit for human habitation at a price which the ordinary lower wage-earning classes can afford to pay.

Discussion.

Mr. Miller (Hereford) said that the conditions referred to applied to almost every town in the kingdom, and one reason was the increased cost of labour under the Insurance Act. There was no doubt that in many towns it was quite impossible for private enterprises to provide houses for the working classes at a rent they could afford to pay. The question was what should be done, and it was suggested that the local authorities should help. Under certain conditions there was no objection to that, but he thought if land was to be bought and houses erected by local authorities it should not be done at the expense of the ratepayers.

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[*Photograph by R. L. Warham.*

68 HAMPSTEAD WAY, HAMPSTEAD GARDEN SUBURB.—Mr. Geoffry Lucas, F.R.I.B.A., Architect

because that would simply mean benefiting one class at the expense of another class which might be just on the border line.

Dr. Webb (Leigh) said that his authority were building one hundred houses and were considering a further scheme for the provision of two hundred houses. Under the Housing and Town Planning Act it had been his duty to take action, and the result was overcrowding in some parts of the town, and as private builders were disinclined to build the only alternative was for the corporation to do so. They were putting up a type of house which they hoped could be let at from 4*s.* 6*d.* to 5*s.* 3*d.* per week. He believed the local authorities anticipated a very slight loss. The author said that thousands of instances might be given to show that two-roomed houses under proper conditions were sufficient to satisfy the requirements of tenants who were engaged in the cotton industry, but as a medical officer of health he thought it would be a retrograde step for it to go out from the Conference that they assented to a statement like that. He thought the minimum house should be at least three rooms, because they must have provision for cases of sickness and also accommodation for storage of food.

Mr. Brodie (Blackpool) said he should like to touch on the broad principle of housing accommodation in manufacturing districts. He took it that primarily when a man put up a mill he expected to find some human beings to work it. The man put his looms in and then hoped to get together in some shape or another human agents to make the mill

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successful, and apparently he expected the local authority to step in and provide houses for the people who were going to work for him. Why on earth should a local authority embark on any scheme of that kind? They ran the very highest risks. The mill might *not* be successful and the houses built by the local authority would have no tenants. They knew a typical case where Cammell's closed their Dronsfield works down and moved the whole of their men to Workington. Almost every house in Dronsfield was to let and property owners suffered a grievous loss. What would have been said if the local authority had built houses in connection with those works? Why could not the mill owners of Lancashire adopt the general principle which he knew was adopted when he was a young lad in the county of Durham? He was then in the employ of the Consett Iron Company and that company were opening up new coalfields, and they started to work and built some 5,000 workmen's cottages at the entire expense of the company and the cost was looked upon as part of the capital outlay. As a young man he drew plans for cottages until he almost forgot to draw anything else. (Laughter.) That applied largely also in the Northumberland coalfield, and why it could not be adopted in Lancashire he did not understand. He did not consider that the local authority had the right to mortgage the rates for an entirely speculative erection of houses.

Mr. Lacey (Oswestry) said that the author spoke of small two-roomed houses, but did he mean houses with two bedrooms?

Professor Radcliffe, in reply, said he spoke with extreme practical knowledge of the subject and had been associated with the class of individual he referred to for a long time. It was no good talking to cotton mill companies about building houses for they would not entertain the idea for one moment. He was not recommending two-roomed houses, but he knew the conditions well, and he knew of hundreds of cases where weavers and others engaged in the mills desired a house of their own. They might be single women or a man and his wife getting on in life and no question of infantile sickness came in in such cases. He did not suggest that such houses should be of the old back-to-back type, but he did say it was a wasteful expenditure of money for local authorities to provide large houses for people who were only earning 20*s.* or 24*s.* per week. Such people would not go into such houses, or where they did they at once got two or three families in the one house.

Mr. Cave asked what a two-roomed house meant.

Professor Radcliffe said it was a single room with proper cupboard accommodation and a bedroom. They were very common in the cotton manufacturing districts, and many of them were kept remarkably clean from the health point of view. To provide houses with three bedrooms to accommodate the class of individual he referred to was not necessary, because private builders would do all that was wanted in that direction.

THE POWER OF THE PRESS.

He would be a bold man who would deny the power of the Press, and much might be written on this subject, both on its power for good and also at times—as we admit to our sorrow—its power for evil.

We desire now to place on record an example of its power for good, and no journal has ever done more noble service in this respect than our contemporary the *Daily Telegraph*. The proprietors of this journal have always been found foremost in the ranks of charitable service. Never have they lent their powerful support, however, to a more worthy subject. Our contemporary has initiated one of their popular Shilling Funds, and on the first day they were enabled to announce a total of 66,938 shillings.

The fund is best described by quoting "Our Appeal for the Belgian People":—

"The sufferings of Belgium have profoundly touched the hearts of the English people. But, indeed, they would melt a heart of stone. The pitiful stories of the thousands of Belgian refugees, fleeing along the roads to the frontiers, have made an ineffaceable impression. Moreover, the vivid photographs of these harrowing scenes have brought the horrors of war home to every newspaper reader in the land.

"In an eloquent letter, expressing the gratitude of the whole Belgian nation for the opening of the fund, the Duchess of Vendôme says that it is impossible for her to express in words how terribly such help is needed. 'It is a thing impossible to exaggerate; impossible even to describe.'

"No one has a better right to speak thus positively. The Duchess is a Princess of Belgium and sister to King Albert, the most sorely tried but the most heroic of living monarchs, more glorious in his hour of proud defeat than the War Lord in his hour of victory.

"Her Royal Highness says that 'the fabric of civilised life has been torn down in Belgium.' It will be for the British nation to help to set it up again, at the end of the war. But meanwhile the problem is rather how to save the people alive—how to provide homeless and penniless men, women, and children with food and shelter.

"And in this connection it is well to point out that there is no intention of hoarding up the fund until Christmas, though we have called it 'The Belgian Christmas Gift.' As the money comes in, so it will be handed over to the Belgian Minister in London, the Comte de Lalaing, and he will pass it on to King Albert. It is important to emphasise this, so that subscribers may be assured that their contributions will go to relieve immediate suffering."

Many of our readers have visited Belgium and studied the delightful specimens of architecture which have, alas! been wantonly destroyed. Those who have not will remember the examples given in our Prout Portfolio of European Sketches, and we therefore make no apology to our readers in urging them to forward some (however small) donation to this commendable fund. Letters should be addressed Belgian Fund, *Daily Telegraph*, Fleet Street, London, E.C., and all cheques and postal orders crossed "& Co."

ECCLESIASTICAL ARCHITECTURE IN CENTRAL ITALY.

By T. Francis Bumpus.

Author of "The Cathedrals and Churches of Northern Italy," "The Cathedrals of England and Wales," "London Churches, Ancient and Modern," "The Cathedrals of Northern France," &c.

(*Concluded from page* 277.)

THE RENAISSANCE.

Several churches in Genoa built during the sixteenth century exhibit this versatility of planning, allied with much fine architecture and sumptuousness of decoration.

One of the grandest, though not the most gorgeous, of these Genoese Renaissance churches is Sta Maria on the Carignano Hill, from the designs of Galeazzo Alessi (1500-1572), a pupil of Michel Angelo, and whose works in this city are numerous.

Posterity, however, must execrate him for "Classicising" the eastern parts of the cathedral and his substitution of the present feeble nave vault for the original flat or gabled one of wood.

The plan of the Carignano at Genoa is that of a cross, with a large dome at the intersection, and smaller ones over the aisles. The limbs of the cross are of equal length, except that the eastern one has a projecting apse, and the aisles, which come up to the respective fronts, are consequently square, and also make the whole building a square, broken only by the apse. Each of the aisles is covered with a hemispherical dome. The massiveness of the central piers, the simple construction of the vaulting (which is cylindrical without clerestory) and the boldness of the cornices give the interior a fine effect.

The finest feature of the sixteenth-century Revived Italian is the dome, and to it the style owes some of its greatest beauties. In churches with a central dome, nothing can be finer than the arches so situated bounding the vault of the nave with the other limbs of the cross. Wherever there is a dome, as in the Carignano, Annunziata, San Ambrogio, and other churches in Genoa, this beauty will be found; and, provided the proportions are well preserved, which is not difficult, there is no position in which the round arch appears to greater advantage. Some domes are round, others octagonal; some are elevated upon a drum, others from an attic of smaller dimensions. That of the Carignano at Genoa is grandly lifted up above the body of the church, is circular, and covered externally with red tiles rounded off at the ends, and overlapping each other so as to produce a scale-like effect which is very pleasing. The drum, or upright portion of the dome is enriched with Corinthian columns in pairs, sufficient room being left between them to admit of a square-headed opening, while the eight intermediate spaces are occupied by as many round-headed

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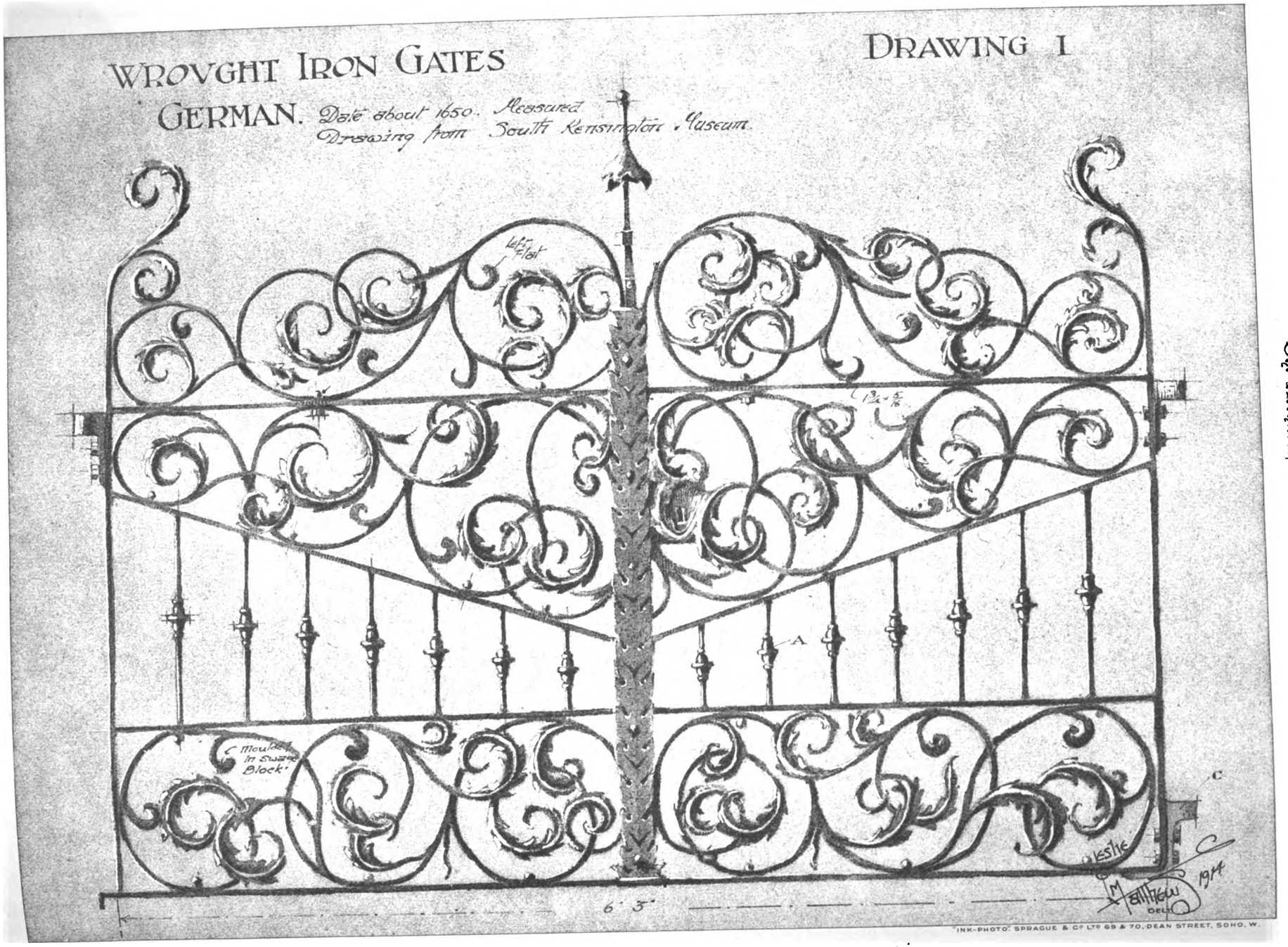
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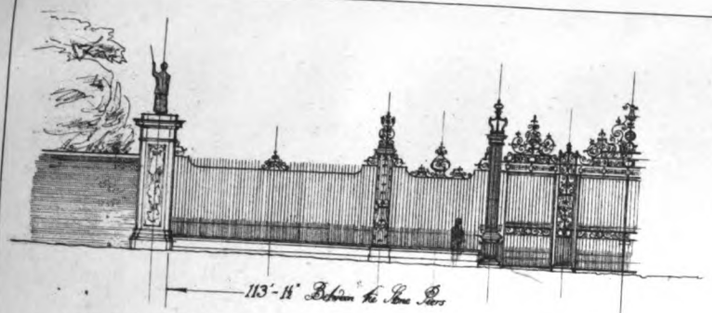
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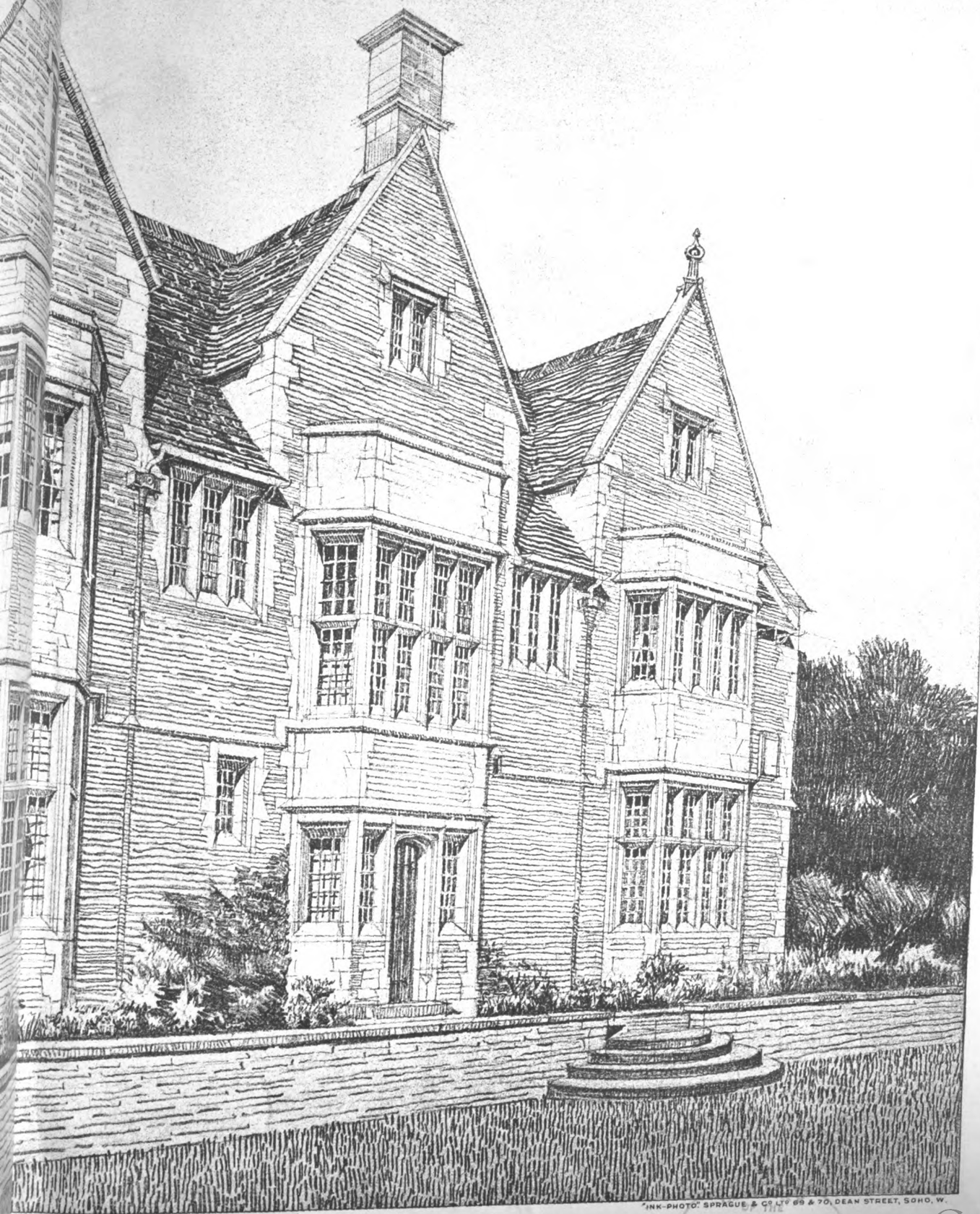
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windows with splays sufficiently deep to afford the requisite play of light and shade. A balcony is carried round the base of the drum, and another encircles the lantern at its junction with the dome. Occupying as it does the highest ground at the extremity of Genoa, Sta Maria in Carignano forms one of the most conspicuous objects in the panorama of the city, the campanili of the customary Genoese Renaissance type combining well with the great central dome.

It is common in churches of this period to make the pier consist of a single column, with its own proper entablature, from which spring the arches. A convent near Genoa offers a very beautiful example, the columns being of white marble, and the order, if memory serves aright, Doric. This or the Tuscan is best suited for the purpose, as the height of a Corinthian capital would add much to the heaviness, which in any case is far from pleasing.

In Genoa the pier is also frequently composed of two columns, standing free from each other in the direction of the nave, and supporting an entablature, from which rise the arches. By this the heavy appearance of the last is avoided, but it is an arrangement that seems more appropriate to the front of a building than for a range in the interior of a church. If the longitudinal and transverse diameter of a pier be unequal, the latter ought to be the greater, both on mechanical principles and for optical effect. This was discovered and acted upon at an early date of Gothic architecture; for, wherever the column is doubled, the line which would pass through the two is almost invariably at right angles with the direction of the arcade.

The nave arcades of two of the handsomest and most sumptuously furnished churches in Genoa—San Siro and Sta Maria delle Vigne—present pleasing examples of the arrangement above described, and which prevails in the Saoli Palace, one of the finest specimens of composition in the city. The order seems immaterial: even the Ionic, which seldom harmonises well with the arch, here appears in character. In the two churches just alluded to the order is Composite.

Another plan is to make the arch spring at once from the capital of the column without any entablature. The church of the Annunziata, built towards the close of the sixteenth century from the designs of Giacomo della Porta, presents a fine example of this in the long range of arcades separating the nave from its aisles. The columns are single marble ones of the Composite order, and of large scale; the flutings are inlaid with another marble, the whole tone being red. These circular pillars are raised above the floor on block pedestals, and receive the pier arches without any entablature. Pilasters reach from the capitals of these columns to the architrave, and divide the spandrels of the arches. The roof is waggon-shaped, vaulted with smaller transverse vaults in each compartment, and is divided in the decoration into three longitudinal divisions, so that much of the awkwardness of the lesser cross vaults is obviated. The whole of the vault is profusely adorned with pictures and gilding, and, taken in conjunction with the deep red of the pillars, the neutral tints of the marble pavement, and the superb decoration of the range of side altar-pieces, affords an example of combined natural and artificial polychromy almost unparalleled for magnificence in Italy.

The west front of the Annunziata has features sufficiently marked to render a description available for general use. It consists of two stages. The lower one is divided by pilasters into five compartments, of which that in the centre is the widest, and contains a handsome marble doorway with a slightly projecting porch formed by two columns with their entablature. In the next compartments are also doors cased with marble, but having no porches, and above them are windows headed with a segmental arch. The extreme compartments have only niches or blank windows. The entablature above each pilaster projects, and supports the corresponding pedestal and pilaster of the stage above.

The central compartment of this upper stage has a round-headed window between two square-headed ones, and is surmounted by a pediment. The intermediate compartments are represented by concave slopes, resting on the attic above the lower cornice. The extreme compartments support towers with segmental belfry windows; each tower is crowned with a small cupola, their whole weight not being equal to that of the central pediment.

This description, with the omission of the flanking towers, would apply to a very great number of Revived Classical churches in Italy. It is more common than the plain Grecian portico, and perhaps better suited to the rest of the building. But it is a mere mask, rising considerably above the roof, and at a little distance it has the appearance of an unmeaning portion of wall.

The Ionic portico has been added to the façade of the Annunziata only within the last thirty years. It is elevated above the adjacent piazza upon a flight of steps, whereby it assumes an appearance of much dignity.

Giacomo della Porta, the architect of this sumptuous church of the Annunziata, was of Milanese origin, and commenced life as a sculptor; he then studied architecture under Vignola, and executed many important works in Rome during the sixteenth century. He was one of the official architects of St. Peter's, and according to Milizia "executed the idea of Michel Angelo in vaulting the cupola. . . . Sixtus V. commissioned della Porta and Domenico Fontana to raise the cupola in twenty-two months; 600 men, working continually during the day and at times at night, completed it."

These two architects gave a little more height to it than was in the original design of Michel Angelo. The façade, cupola, and high altar of the church of the Jesuits, one of the most lavishly decorated in Rome, were designed by Porta, the other portions of the church being due to Vignola; but it is now so overlaid with Baroque ornament that the simple beauty of the old masters is quite obscured and destroyed.

Among Porta's other works may be named the mausoleum of Cardinal Alessandrino in Sta Maria sopra Minerva; the façade of Sta Caterina dei Funari, and that of San Paolo alle tre Fontane.

In Sant' Ambrogio, another very noble church of the mid-Renaissance period at Genoa, the architect has resorted to the more ordinary expedient of making the arches opening from the nave and choir into the aisles spring from Tuscan pilasters, placing between them a fluted Corinthian pilaster to support the architrave, but without any entablature above the capitals. The grouping of these Corinthian pilasters at the four corners of the crossing, above which rises a dome, is very elegant. In this church the two-bayed eastern limb terminates in a flat wall, against which is placed a most noble altarpiece, whose architrave, supported by four Composite columns, is on the same level with that over the two side arches. The pediment over the central portion of this altarpiece is semi-elliptical, and supports a group of statuary, while in the semicircular space over it, and corresponding to the clerestory, are three windows, completely filling up the space, the central window being of oblong shape, while the north and south sides of the flanking ones are curved in conformity with the shape of the waggon-shaped vault. Few Revived Italian east ends are more satisfying than this of Sant' Ambrogio at Genoa, or more deserving of attention from the student of this particular phase of the country's architecture.

It is impossible within these limits to enter into a dissection of the countless churches built during the sixteenth and earlier part of the seventeenth centuries in Italy. Every important town contains several churches of this epoch, and in not a few places of lesser importance they may be looked for. A bare list, therefore, with the names of their architects, wherever they have been discovered with certainty, of those churches which have most impressed the writer during his several tours in the north and centre of the peninsula, can only here be given.

Sta Giustina, Padua, begun in 1502 by Padre Girolamo da Brescia, and completed between 1532 and 1549 by Andrea Morone, a most noble church of the grandest proportions; San Giorgio Maggiore, Verona, by San Michele (1477); San Giovanni Evangelista and the Madonna della Staccata at Parma, the one a huge cruciform church, the other a simple circular one surmounted by a dome, by Zaccagni (1510-30); Sta Maria Umilta, Pistoja, begun in 1509 under Vitoni, a pupil of Bramante, with a cupola by Vasari, no nave, but a long vestibule running (ecclesiologically speaking) from north to south; the Annunziata at Arezzo by Antonio da Sangallo; the cathedral at Bologna by Domenico Tibaldi (1605); the cathedral at Vercelli, by Pellegrino (1577); the new cathedral at Brescia, with a central dome, the third largest in Italy, by Mazzoli; the Badia at Florence (1625), and the sumptuous Cappella del SS. Sudario (or Sta Sindone) behind the high altar of the cathedral at Turin.

The dome of this chapel is peculiar. It is built up of a series of open semicircles of black marble, placed in tiers decreasing in size. This structure was added to Turin Cathedral about 1680, and was executed from the designs of Guorini, who, though but a religious, was a skilled mathematician. It is one of the most pleasing specimens of the Revived Italian style after its architects had emancipated themselves from the strict rules of Classicism.

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Among other suggestive churches of this epoch in Turin are San Lorenzo and La Gran Madre di Dio, the latter resembling in plan and arrangement the Pantheon at Rome. It was built in the early part of the last century.

In Rome the best examples of the sixteenth and seventeenth centuries may be looked for in Sta Agnese Piazza Navona, by Girolamo Rainaldi; Sant' Andrea al Quirinale, by Bernini; Sant' Andrea della Valle, by Oliviera; Il Gesu, by Vignola and Giacomo della Porta; San Giovanni dei Fiorentini, by the latter; Sant Ignazio, by Oratio Grassi and Algardi; San Marcello, by Sansovino and Fontana; Sta Maria degli Angeli, evolved by Michel Angelo from the Thermæ of Diocletian; Sta Maria dell' Anima, completed by Sangallo, and Sta Maria di Loretto, by the same hand; Sta Maria dell Orto, by Giulio Romano and Martino Longhi; Sta Maria della Pace, by Baccio Pintelli; Sta Maria in Valicella (La Chiesa Nuova), by Martino Longhi; and the chapels of the Holy Sacrament and Borghese Family in Sta Maria Maggiore, by Fontana and Flaminio Ponzio respectively.

The remodelling of the interior of the Lateran basilica and its eastern façade, and the whole of the exterior of Sta Maria Maggiore, are important but not very happy works of that period of the Renaissance when a reaction from the *classicismo* of the sixteenth century had taken place, evidencing itself too often in lawless and, it must be added, vulgar extravagancies, to say nothing of the wholesale disfigurement of many a fine and priceless monument of the Gothic period. There is, however, a noticeable reaction from the extravagancies of Bernini and Borromini, to the latter of whom the present aspect of the interior of San Giovanni Laterano is due, in some few eighteenth century works, as shown in the dignified correctness of exteriors and somewhat frigid grandeur of interiors. The great portico of Sta Maria Maggiore, built in 1743 from the designs of Fuga, may be mentioned as one of the most satisfactory works of its age and class. On the whole it must be conceded that the Italian architects and artists of the Renaissance were a race of giants, remarkable for intellectual power and a natural sense of good taste combined with a versatility, energy, industry, and tact, such as render them quite an exceptional set of men, and will always command the respect and admiration of mankind. Their lives and productions recommend themselves to all students of art, as calculated to be of advantage to them in every way, for, as a rule, they were not only thorough enthusiasts, but were characterised by the energy and industry with which they pursued their studies. They were men of broad views, and gifted with that knowledge of the world and sense of their own personal dignity and the honourable nature of their calling which made them respected even by the greatest monarchs of their time. They evidently knew indeed "how to make the best of both worlds," the world of art and the world of natural life; and in concluding this chapter on the Italian Renaissance, in its ecclesiastical aspect, the writer cannot do better than direct the attention of students to a thorough study of their career and works, satisfied that they will rise from such study with a deep sense of their worth and a high admiration of their art. That Renaissance style, which originated in Italy in the fifteenth century, has given rise to some of the noblest monuments throughout the world, and is illustrated by a band of the greatest and most accomplished artists of modern times.

FOG PREVENTION.

The municipality of Lyons has set aside a certain sum to carry on experiments for preventing local fogs proposed by M. Georges Onofrio, Director of the Fourvière Observatory of that city. This well-known meteorologist has devoted much study to the fogs that cover Lyons for many days during the cold season, and, according to a writer in the "Journal" of the Royal Society of Arts, has become convinced that these fogs may be lessened, if not entirely obviated. It may be noted, in contradistinction to general fogs that often cover plains of the north of France and the sea fogs that envelop many of the coast towns, that the Lyonnaise fogs are altogether local. Lyons, situated at the confluence of the two navigable rivers, the Rhône and the Saône, has a population of over half a million, and, although containing with its suburbs many manufacturing establishments, can in no wise be considered smoke-infested. Frequently in winter the fog rises and filters through the streets, shutting out sunshine and causing discomfort to the inhabitants.

This fog is really an anomaly, because at a comparatively short distance away from the city there may be absolutely no fog. A strong wind will often clean the town of mist and bring a return of clear weather, whereas in cases of a general fog extending over a vast area a wind may be slow in bringing about a return of normal atmospheric conditions. Furthermore, according to the American Consul at Lyons, the fogs in that city do not spread widely, owing to elevated land about the rivers, and are often low-lying fogs. It has been supposed that local fogs were caused by the convergence at this point of winds from the north or from the Alps with those from the south. A chain of shallow lakes, lying upwards of twenty miles from the town, has been likewise blamed, as well as the dust and smoke inseparable from a large city. Careful observation, however, seems to point to the fact that the constant evaporation of the two rivers in and near the city produces a great deal of humidity, which is invisible when the temperature is high, but which readily condenses during cold weather when there is not sufficient wind to drive it away.

Owing to the heights along the rivers, this fog cannot escape except at one side, towards which a part rolls, thins out, and often disappears. In consequence, much confined, the fog thickens and increases in volume over the rivers, quays, and thoroughfares, and becomes injurious to health and interferes with traffic. At certain times the town seems from some points surmounted by an immense dome of mist, the density and height of which vary according to the temperature and the sunshine. In view of the possibility of doing away with the local fogs, the city authorities have determined to essay a systematic campaign against this plague. Certain measures have already been suggested, such as great blowing machines from the heights above the city, and also the use of Hertzian waves. The project formulated by M. Onofrio consists in pouring oil on the rivers some distance above the city at a point where the fogs usually collect, so that the surface of the streams will be covered with a thin oil film for a distance sufficient to prevent the rise of vapours within the fog area.

Various facts have been collected from different points, showing the efficacy of the oil coats in reducing the roughness of water, escape of unhealthy odours, and the prevention of rapid evaporation. Experiments have been made by the scientist in question on a small scale with a long vat, at the end of which very hot water was introduced. At the other end there was an opening, so that there was a rapid and regular current. From the entire surface thick steam constantly arose. At about one-quarter of the distance from the inlet a dividing partition was let down in the form of a double sieve, holding tow moistened with a small quantity of oil. Following the current, an oily coating extended over the lower three-quarters of the vat, and immediately vapour ceased to rise. It is estimated that a coating of oil of one $\frac{1}{100,000}$ millimetre (the millimetre=.039 of an inch) in thickness is sufficient to cause the disappearance of the vapour from the boiling water.

This experiment was carried out with water at the temperature of about 185° F., whereas the temperature of the two rivers on which Lyons is situated averages about 59° F.; so it is believed that an exceedingly thin sheet of oil will be still more efficacious when spread over a cold surface, even should it attain the thinness of $\frac{1}{200,000}$ millimetre. The thickness proposed for the rivers is $\frac{1}{150,000}$ millimetre, which will require about .8 of a gallon for about every 460,000 square metres (552,000 square yards). The oil best suited to this work has not yet been determined. Trials are being made with as many as fourteen different oils—animal, vegetable, and mineral—to find one that will come nearest to fulfil the required conditions. It should be an oil that will spread rapidly and easily over the surface of the water, and at the same time it must be an oil with the strongest possible power of resistance and tenacity.

An oil film that will readily break on the water is of little value. These two qualities are more or less opposed, and it will require some study to find the oil that will spread most easily and still not break. It is thought that an animal or vegetable oil will be found preferable to a mineral oil, though the mineral oils would probably be a good deal cheaper. It is not possible to give the probable cost of keeping the entire city free of fog before an effective oil has been determined upon, although a rough estimate for both rivers puts the expenditure within £6 a day for the cold season. It is hoped, through the exhaustive experiments now beginning, to replace the average sixty-

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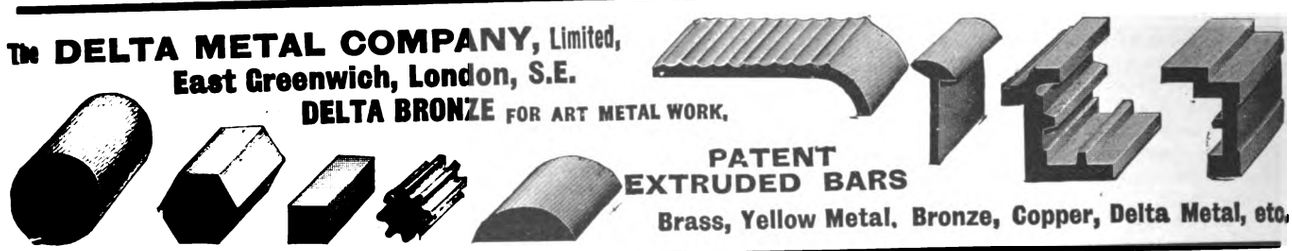
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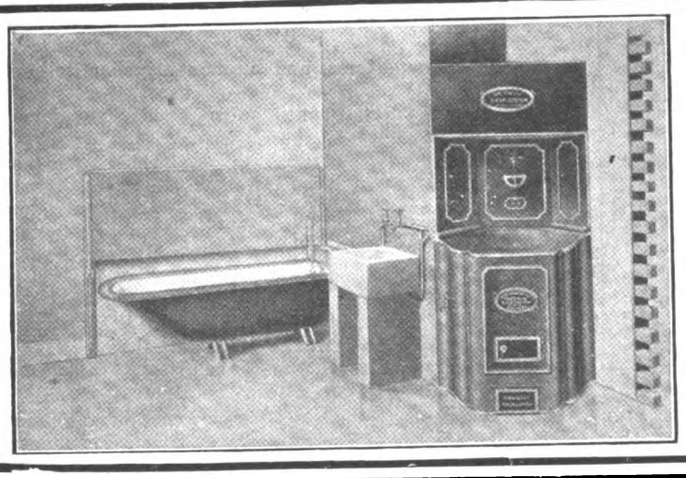
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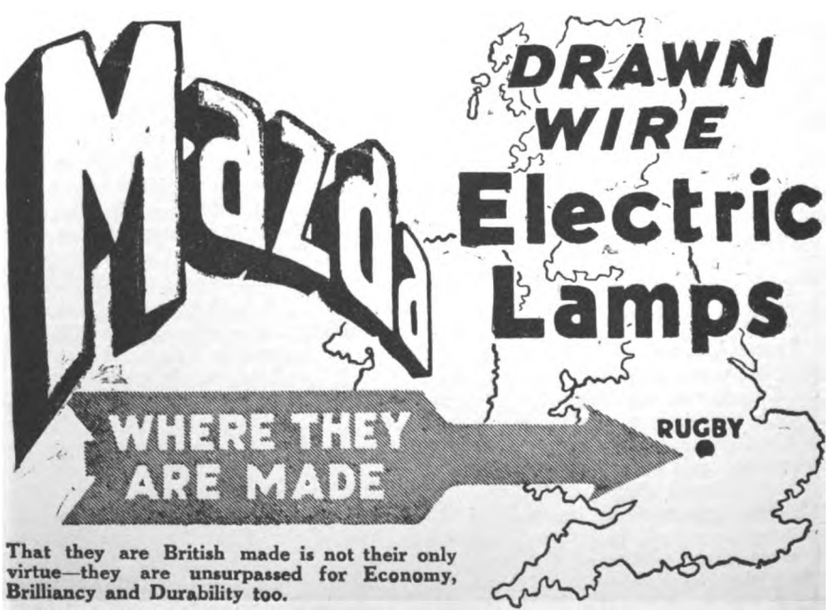
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two days of fog with which Lyons is annually troubled by sixty-two days of normal weather. If practice bears out a plausible theory, not only will Lyons receive its full share of sunshine, but other inland cities similarly situated and darkened by fog will be enabled to profit by this simple fog-exterminating method.

THE ARCHITECTS' WAR COMMITTEE.

PROFESSIONAL EMPLOYMENT SUB-COMMITTEE.

A FUND has been started for providing work for architects whose means of livelihood are practically stopped by the war. The administration of this fund is in the hands of the above sub-committee, which is occupied firstly in ascertaining the names of those architects in actual need of employment in consequence of the war; secondly, in evolving schemes of a useful nature by which these architects may be temporarily employed; and thirdly, in appealing for financial support.

1. Architects in actual need of employment in consequence of the war are invited to submit their cases to the Hon. Secretary at 20 Bedford Square, W.C. These cases will be considered by a sub-committee in strict confidence.

2. Suggestions are invited for schemes of a useful nature by which architects may be temporarily employed. For instance, small fees might be offered for measured drawings of buildings of architectural or historical interest, or for civic survey work. It is thought that the various architectural and other societies throughout the country would be glad to co-operate in giving effect to these proposals.

3. The War Committee have already issued an appeal for funds, and it is hoped that this appeal will meet with a liberal response. The proportion of this fund available for the purpose of providing work can only be regarded as a nucleus, and a generous support should be forthcoming from all who realise that the present opportunity is an exceptional one for undertaking the work proposed. The main object of the sub-committee is not to distribute benevolent aid, but to provide architects with temporary work of such a character that at the termination of the war their work would be of a distinct value to the community.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

CHESHIRE.
Aston.—Eight cottages, for Nantwich R.D.C. Mr. C. E. Davenport, architect, 152 Hospital Street, Nantwich.
Birkenhead.—Council school, Claughton Road.
Sandbach.—Children's cottage homes, for Congleton B.G.

DERBYSHIRE.
Bugsworth.—Council school for 192 places.
Chesterfield.—Council school, Jaw Bone Hill.
Council school, Soresby Street: reconstruction.

DEVON.
Exeter.—Isolation Hospital: administrative block (£2,700).
Hartland.—U.M. Church.

DURHAM.
Chester-le-Street.—Drill Hall, for County T.F.A.
Ludworth.—Council school for 350 places.

ESSEX.
Black Notley.—Tuberculosis Hospital: alterations and enlargement (£1,520).
Braintree.—House, Skin Hill, for Mr. H. G. Pugh.
Upminster.—Business premises, for Messrs. Griggs & Co. Mr. G. H. Nulych, architect, Beacontree House, Romford.

GLOUCESTERSHIRE.
Cainscross.—Elley School: extension, for County Education Committee.

HAMPSHIRE.
Southampton.—Taunton School. Mr. A. F. Gutteridge, architect.

KENT.
Minster (Thanet).—Cottage Homes: extension, for Thanet B.G.

LANCASHIRE.
Ashton-under-Lyne.—Council school. Messrs. Eaton, Sons & Cantrell, architects, Bank Chambers, Stamford Street.
Bispham, Little.—Café, for Mr. H. Little.
Blackburn.—Workhouse Infirmary: alterations and extension.
Bolton.—Post Office and Telephone Exchange.
Liverpool.—Presbyterian Church and manse, near Lance Lane.
Workmen's dwellings, Gore, Jordan, and Sparling Streets.
Oldham.—Council school, Ward Street.
Turton.—Electricity sub-station, &c. (£3,600). Ainsworth Lane, Harwood.

LINCOLNSHIRE.
Boston.—Council school for 500 places (£6,000).
Stamford.—Twenty-four workmen's dwellings (£4,100).

MONMOUTHSHIRE.
New Tredegar.—Saron Church Sunday schools, Phillipstown.

NORTHUMBERLAND.
Adderstone.—Council school for sixty places, for the County Education Committee.
Morpeth.—R.C. Church: proposed school.

NOTTINGHAMSHIRE.
Kirklington.—Council school.
Mansfield.—Science, Art, and Technical School, Pleasley Road.

SHROPSHIRE.
Weston-Rhyn.—Twenty houses, for Oswestry R.D.C.

SOMERSET.
Williton.—Proposed children's homes, for B.G.
Proposed workmen's dwellings.

STAFFORDSHIRE.
Stoke-on-Trent.—Girls' secondary school.
Public elementary school (for 750 places), Oakhill (£15,000).

SUFFOLK.
Ipswich.—Council Schools, Bolton Lane and London Road: additions. Mr. E. T. Johns, architect, 8 Lower Brook Street.

SUSSEX.
Portslade-by-Sea.—Council school for infants.

WARWICKSHIRE.
Bedworth.—Seven houses, Bulkington Lane, for Mr. W. Johnson, M.P.
Ten houses, Heath Road, for Messrs. J. Magson & Son.
Birmingham.—Two almshouses, for the Yardley Charity Estates.
Two factories, Small Heath, for the Birmingham Small Arms Co.
Coventry.—Technical School, Pool Meadow (£25,000). Mr. A. W. Hoare, architect.
Foleshill.—R.C. Church and schools, Stanley and Highfield Streets (£11,000).
St. Paul's Sunday School.
Four houses, King George's Avenue, for Mr. T. W. Roulston.
House, Benthall Road, for Mr. R. Whiteman.
House, Church Road, for Mr. A. Ward.
Harborough Magna.—Infectious Diseases Hospital: engine house. Mr. T. W. Willard, architect, Boughton House, Market Place, Rugby.

WESTMORLAND.
Kendal.—Garage, Highgate. Mr. J. Hutton, architect, 22A Highgate.

WORCESTERSHIRE.
Kidderminster.—Children's Homes, Sutton Common, for the B.G.
Ombersley.—Proposed four workmen's cottages, for Droitwich R.D.C.
Shipston-on-Stour.—Cottage homes, for the B.G. Mr. Q. Quinton (of Newbold-on-Stour), architect.

YORKSHIRE.
Baildon.—House, West Lane. Messrs. Nunns & Bracewell, architects, Bank Chambers, Bingley.
Bentley.—One hundred Council houses. Mr. R. G. Whitley, architect. Messrs. Storey (of Hexthorpe), £14,134; Stubbs, £6,810; and Wagstaff & Turner (of Holmfirth), £725, contractors.

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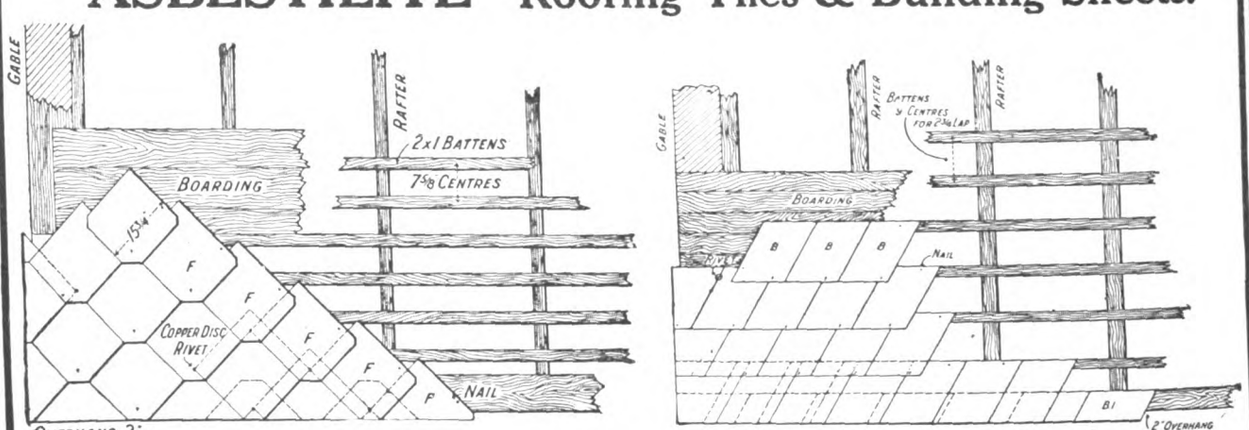
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ENGLAND—*continued.*

YORKSHIRE—*continued.*

Beverley.—County Asylum: additions. Mr. J. Bilson, F.R.I.B.A., architect, 23 Parliament Street, Hull.

Bridlington.—Workmen's houses, Portland Place (£1,700).

Catcliffe.—Wesleyan Chapel: extensions, &c. Mr. J. Totty, architect, 20 Moorgate Street, Rotherham.

Doncaster.—Wood Street Hotel: alterations.

One hundred and two workmen's houses, Carr House and Elmfield (£18,000).

Leeds.—University, Woodhouse Lane: Department of Agriculture (£10,000).

Workhouse, Armley: additions and alterations to the Nurses' Home. Messrs. F. W. Rhodes & Son, architects, 131 Upper Wortley Road.

Malthy.—Four shops and houses, Tickhill Road, for Mr. A. Clayton.

Pontefract.—Ambulance Brigade Station. Mr. J. E. Pickard, Borough surveyor.

Selby.—Public elementary school for 750 places.

Sheffield.—R.C. school (for 150 places), Woodseats.

Shipley.—Town Hall. Messrs. Anderton & Bailey, architects.

Skipton.—Congregational Church (£5,000).

York.—Eight houses, Ely Street: back additions. Mr. J. W. Cooper, builder, 52 Scarcroft Hill.

WALES.

Barry.—One hundred houses, for the S. Wales Town Planning Association.

Workmen's Institute, for Mr. D. Davies, M.P.

Clydach.—School, for the Pontardawe School Managers.

Criccieth.—Workmen's dwellings. Mr. St. John Hancock, architect.

Llanrwst.—The "Swan" Inn: alterations. Mr. A. M. Jones, architect.

Tonyrefail.—Welsh C.M. Chapel.

SCOTLAND.

Aberdeen.—Robert Gordon's Technical College: School of Navigation and Fisheries (£12,500).

Aberfeldy.—Church Hall.

Cambuslang.—Post Office, Bridge Street.

Edinburgh.—Premises for the Y.M.C.A. (£6,000). Mr. G. Brown, architect, Albyn Place.

Glasgow.—Fire Station, Wallace and Centre Streets.

Demonstration school, students' hostel, and offices, Jordan Hill, for Glasgow Provincial Committee.

Stables, off Jordan and Hill Streets, for St. George's Co-operative Society.

Ten tenements, Aberfoyle Street, for the Alexandra Park Property Co.

Tenements, College and Moncur Streets.

IRELAND.

Castlebar.—Eight labourers' cottages, for the R.D.C.

Killarney.—Twenty-seven labourers' cottages, for the R.D.C. (£3,600).

Newport (Co. Mayo).—Church. Messrs. Doolin & Butler (F.R.I.B.A.), architects, 23 Kildare Street, Dublin; also

Rathdown.—Forty-four cottages (£8,800).

THE Derbyshire County Council Asylum Committee report that the sketch plans of the proposed asylum at Thornhill had been approved by the Board of Control of the Lunacy Commissioners, but it will probably be some time before complete plans are ready owing to several members of the architect's staff having joined the Army.

THE Hull Corporation adopted on the 8th inst. a housing scheme for the new George Street district, which is to involve an expenditure of upwards of £100,000, and includes the provision of 250 model dwellings, with modern conveniences, suitable for working-class families. The area to be covered is four acres. There was considerable opposition to the scheme, and an amendment deferring the scheme, put forward by members who advanced Mr. Lloyd George's argument that corporations should not now embark on large expenditures, was defeated only by one vote. By this scheme, under the Housing and Town Planning Act, 252 houses are to be provided at a cost of £67,150; the site is estimated to cost £36,000, the street works £4,120, and the charge on the rates will be £2,561 per annum.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The Society for the Protection of Ancient Buildings.

SIR,—Your article of September 11 came before my committee at its meeting after the vacation. It appears to it that the effect of the article is to cast obloquy on the committee by an allegation of a misapplication of its funds. In effect, an actuarial statement has been misconstrued to discredit the Society and so impede its work. The transfer to which objection was taken was purely of a temporary nature. The amount concerned was repaid to the building fund in January of this year.

In justice to the Society it is hoped that you will see your way to publish this disclaimer. The facts are at the disposal both of yourself and of any of your readers who are sufficiently interested to call at these offices.

As regards the criticism of the cases referred to in the annual report, I would draw the attention of your readers to the impartial review which appeared in the Journal of the Royal Institute of British Architects on August 29.—I remain, your obedient servant, A. R. POWYS,

Secretary.

The Society for the Protection of Ancient Buildings,
20 Buckingham Street, Adelphi, London, W.C.:
October 10, 1914.

[We are pleased to be informed that the transfer of monies from one fund to another was purely of a temporary nature, but it is a pity that subscribers and friends of the Society were not so informed in the published report. Our criticisms on the work of the Society are quite impartial. We wish only to see more useful and valuable accomplishment in its labours.—ED.]

A New Trade Ministry.

SIR,—Your correspondent Mr. H. Luke has raised a point, or rather points, of the utmost importance. The Board of Trade has been proved to the business men of this country to be absolutely lacking of all business capacity. It has been tried and found wanting, and the only idea it has at the moment is to thrust upon the public through the courtesy of your columns and other journals a quantity of undigested matter and unchecked figures, which are to all intents valueless. An exhibition has been held of cheap and nasty toys and equally cheap and nasty glassware, which no British firm could or would undertake to manufacture. Mr. Luke's suggestions are worthy of very careful consideration by his Majesty's Government. We are now proving ourselves a nation of fighters, but it behoves us to remember we are also a "nation of shopkeepers," and every possible assistance should be given to push our trade and so provide the "silver bullets" which the Chancellor of the Exchequer states will carry us through triumphantly.—Yours, &c., A MANUFACTURER.

Sheffield.

MR. JAMES LOCHHEAD, F.R.I.B.A., has prepared a scheme, at the request of the local parish council, for the reconstruction of the Cambuslang Parish Council Poorhouse at a cost of £14,000, exclusive of furnishings and machinery.

THE Royal Institute of the Architects of Ireland held an ordinary meeting of the Council of the above at the Institute Rooms, No. 31 South Frederick Street, Dublin, last week. The President, Mr. R. Caulfeild Orpen, B.A., R.H.A., occupied the chair. There were also present: Messrs. F. Batchelor, J. A. Geoghegan, F. Hayes, A. E. Murray, A. G. C. Millar, C. A. Owen, Professor Scott, J. H. Webb, G. L. O'Connor, G. P. Sheridan, L. O'Callaghan, and F. G. Hicks, hon. secretary. Matters were dealt with arising out of the war crisis, and a Relief Works Committee, consisting of Messrs. J. H. Webb, G. L. O'Connor, and C. A. Owen, hon. secretary, was appointed. Correspondence from the R.I.B.A., asking for co-operation in its War Committee's proposals, was submitted. The following were appointed on the R.I.A.I. War Committee: Messrs. Lucius O'Callaghan, Albert E. Murray, G. P. Sheridan, and Frederick Hayes, hon. secretary. This committee was instructed to circularise the whole profession in Ireland.

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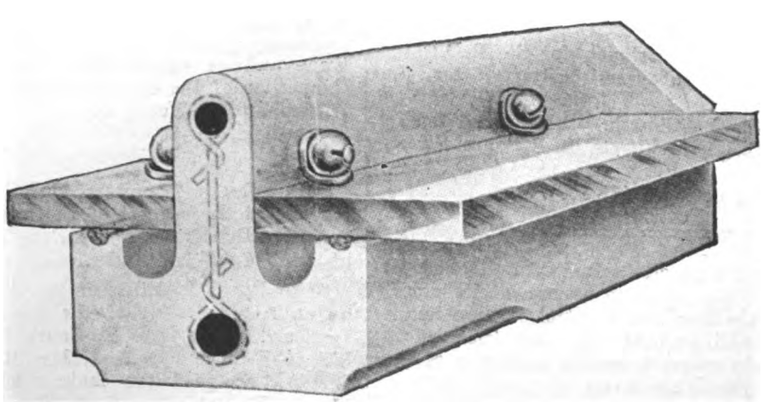
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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, October 26.

Architectural Association : Annual General Meeting. Paper entitled "Art and the War," by Professor Selwyn Image, M.A., at 8 P.M.

Tuesday, October 27.

Nottingham and Derby Architectural Society : Presidential Address by Mr. H. Gill, M.S.A., at 6.30 P.M.

Wednesday, October 28.

St. Paul's Ecclesiological Society : Paper entitled "A Mercian Minster and its Memorials," by Mr. E. W. Harvey Piper, at 8 P.M.

Friday, October 30.

Historical Association : Paper entitled "Roman London," by Professor F. J. Haverfield, at University College, Gower Street, at 8 P.M.

Saturday, October 31.

Institution of Municipal Engineers : Eastern and North-Eastern District Meeting at Lincoln, at 11.45 A.M.

LONDON'S ELECTRICITY SUPPLY.

At its meeting last week the London County Council passed, without comment, the recommendation of the Special Committee on London Electricity Supply, that public notice be given of the intention of the Council to consider, on November 10, a proposal that it shall take the necessary measures for promoting in the Session of Parliament of 1915 legislation dealing with the establishment of a new electricity undertaking for the County of London and certain adjoining districts. The Finance Committee of the Council state that they have not yet received final details of the scheme of the Special Committee, and they are consequently not in a position to report upon its financial bearings.

The scheme involves very great financial operations, so that the careful consideration of these is a vital point in the approval or rejection of its proposals, and the Finance Committee naturally guard themselves by saying that while they see no objection to the present recommendations it must, of course, be understood that if the Council agrees to those recommendations such agreement must not be taken to have prejudiced in any way the consideration by the Council at a later date of the desirableness of seeking the proposed powers.

Put shortly, the object of the scheme is to greatly decrease the cost of electricity supply in London by the establishment of a new undertaking which shall gradually centralise the production and unify the distribution of electricity in Greater London, and ultimately absorb all the existing undertakings in the area.

Whilst there can be no question that the concentration of the power for the generation of electricity effects large economy of costs there are other considerations of public policy which affect the scheme. In the present existing circumstances, with an aerial raid threatened on London, there must arise the thought that to put all our eggs in one basket, to centralise the whole of London's generation of electricity in one spot, offers a tempting target for attack and courts a catastrophe. The unification of our electricity supply implies a monopoly and connotes either municipal ownership or the establishment of an all-powerful trust, both of which are, with reason, viewed with distrust by a large body of public opinion. Municipal ownership does not always succeed in combining efficiency with economy, and objectors to the principle would be justified in pointing to the experience of London with regard to the tramway service as operated by the London County Council.

The obvious and reasonable objections that would be raised to either an entirely municipally-owned or an entirely company or trust-owned monopoly of London's electricity supply have been recognised by the County Council's Committee as forming an insuperable difficulty in the way of obtaining the necessary parliamentary sanction for any such scheme, and they have, therefore, set themselves to the consideration of some desirable arrangement by which municipal control could be combined with the advantages of private enterprise. In the discussion of various proposals the Committee report adversely upon several suggested combinations: (1) the formation of a company in which municipal authorities should be large shareholders; (2) a division of the capital provision between the public authority and the company as regards certain defined kinds of expenditure; (3) the ownership of the whole of the establishment capital by the municipal authority and of the working capital by the company. The objections raised by the Committee to these three schemes respectively are stated in their report briefly, but not to our mind entirely convincingly.

The Committee's own and favoured plan is that an arrangement might be made under which the capital required should be provided in definite proportions by the authority to be constituted and a company, the company to have possession of the whole of the undertaking (including any undertakings acquired) for a definite period, subject to full powers of control and supervision by the authority.

It is proposed that the authority should advance, by way of loan, two-thirds of the capital required for fresh works and the company the remaining one-third. The authority to provide the whole of the money required for the capital expenditure in the transfer of existing undertakings. The company is to have possession of the undertaking for a contract term of years, after which the authority would resume possession on payment of a sum equal to the capital provided by it.

It is an essential part of the Council's scheme that the authority to be constituted should exercise control, and it is important to know how far that control extends. It is suggested that it should include: (1) Approval of all proposals by the company involving capital expenditure; (2) approval of the nature of the capital raised by the company and of the terms on which such capital is raised; (3) approval, during the last ten years of the contract, of all agreements and contracts entered into by the company; (4) a scale of maximum charges by the company to be prescribed in the Bill, such maximum prices being, however, subject to revision by the Board of Trade from time to time upon the application of either the authority or the company; (5) powers to take action for

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the protection of the interests of retail and bulk consumers.

Fears have been expressed by some critics that the scheme proposed may be made the occasion for the exploitation of London by aspiring and profit-seeking promoting interests for their own profit, and that vigilance on behalf of the public is necessary. The power of control to be exercised by the authority over the raising of capital by the company appears to us to be directed against the possibility of such exploitation, but the exercise of that control would undoubtedly be a matter of great public interest and importance. The suggested constitution of the authority is a body neither "unwieldy or complex in character," containing representatives of the London County Council and the five other county councils and the three county boroughs concerned in the area to which the scheme applies. In such constitution of a comparatively small and autocratic authority, whose operations, so far as at present appears, may be conducted without publicity, there must be admitted to lie the possibility of influences in both the raising and the expenditure of capital which would provide opportunity for the exploitation of which, as we have said, some critics have advanced the possibility.

The business of electricity supply in the county and Greater London area is now operated by thirty-nine local authorities and thirty-one companies, and the intention of the scheme is to standardise distribution and supply these seventy separate units with electricity in bulk, ultimately absorbing them into one concern with the gradual supersession of their individual generating stations. It is even adumbrated that at some future time the electricity of London shall be generated at the coalfields; but for the present it is considered that the concentration of generating plant on sites down the river is the correct policy. The technical side of the scheme can be predicated as calculated to effect the objects in view. There is no supreme difficulty in generating and supplying the whole of London's electricity from a central station.

NOTES AND COMMENTS.

The following resolution of sympathy addressed to the French Ambassador and the Belgian Minister will be, we are sure, most sincerely and completely endorsed by every one of our readers:—

The Ancient Monuments Boards of England, Scotland, and Wales desire to record the horror and indignation with which they have received the news of the wanton destruction by the common enemy of the famous and beautiful monuments of your country, monuments which were justly the pride not only of their native land but of the whole civilised world.

Such losses are, alas! irreparable, and must ever remain a bitter memory, the record of a chapter in the annals of mankind which will brand with indelible infamy the minds which conceived and the hands which carried out so idle an outrage against civilisation.

But, although nothing can undo these excesses of a brutal and ruthless militarism, the occasion must at least evoke a demonstration of full and complete sympathy with the people on whom they have been inflicted—a people long and deservedly famous alike for the inestimable value of their historical monuments as for their deep appreciation of that value.

We beg that Your Excellency will be good enough to convey to your Government this expression of our most profound sympathy.

Signed by Lionel Earle, Chairman of the Ancient Monuments Board of England; John Stirling Maxwell, Chairman of the Ancient Monuments Board of Scotland; and E. Vincent Evans, Chairman of the Ancient Monuments Board of Wales.

Amid the chorus of execration on the authors and sympathy with the sufferers in the wanton destruction of Rheims Cathedral, and other acts of sacrilege and vandalism in France and Belgium, may be recorded the resolution of protest passed by the Scottish Ecclesiological Society at their meeting at Rosslyn Chapel. The resolution was as follows:—

"The Scottish Ecclesiological Society laments that the German forces have added to their other excesses the destruction of venerable buildings and sacred shrines as at Malines, Louvain, Dinant, and now at Rheims, by which the world has lost irreparably.

"The Society judges that a case has arisen for the remonstrance of neutral Powers as well as for the protest of all civilised peoples.

"The Society offers its respectful sympathy to the Archbishop of Malines, Primate of Belgium, and to the Archbishop of Rheims in the desolation of their Christian flock, and in the ruin of sacred buildings in their ecclesiastical provinces."

At that meeting of the Scottish Ecclesiological Society Mr. Thomas Ross, LL.D., read a paper descriptive of the founding, building, and decoration of the chapel, which constituted a plea for the view that the chapel had been designed and constructed by Scottish professional talent and workmen, and not by foreigners. Few buildings in the country, he said, had been so much written about, and talked about, and visited from far and near as Rosslyn Chapel. It had been lauded to the skies on the one hand as an architectural gem, and on the other traduced to a low position. It had been claimed as the work of some unknown Spanish architect, of a Portuguese, or a Frenchman, and there had even been talk of Rome. No Scotsman in this connection had been allowed to have a look in except the noble founder, Sir William St. Clair. Dr. Ross, in the course of an interesting and learned paper, pointed out that there was no documentary evidence that foreign artificers were employed; that the plan of Rosslyn was identical with the corresponding part of Glasgow, but on a greatly reduced scale; and from that they might almost rest the assumption that Rosslyn was the creation of native hands and native skill. Further, that if the church had been built by foreigners its east end would not have been square, which was a peculiarly British characteristic, but on some circular plan; that there was a very obvious resemblance between the porch of Rosslyn and that of Trinity College Church, Edinburgh, and of that of the Church of Dalkeith; that the continuous barrel vault of Rosslyn was quite in keeping with the Scottish churches of the period; while as to the carvings and mouldings, while these were of an elaborate kind, they were all Scottish in character, and could not in detail be regarded as superior in design or execution over those of other Scottish churches of the period, such as Melrose, Linlithgow, Seaton, Trinity College Church, or Stirling. Rosslyn, then, was a chapel with a great affinity to the character of the other churches of this country, so that the theory of its foreign origin was neither supported by documentary evidence nor by probability.

A letter in the *Glasgow Herald* points out in quite reasonable fashion that inasmuch as it is the intention of the Corporation to proceed immediately with extensive building and other public works, with the object of alleviating the distress which will undoubtedly be felt throughout the city and district this winter owing to the complete stoppage of building by private enterprise, the object they have in view could be more fully accomplished by allocating (by competition or otherwise) the work amongst the architectural profession than by arranging that it be carried out by the City Engineer's staff, which is already overburdened with work.

In a report to the Cardiff Technical School Committee the Superintendent of Technical Instruction points out that most undoubtedly the German chemists, prior to the war, had reached a higher state of efficiency than those of any other nation, and this was reflected in the lead the Germans had taken in many branches of the

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chemical industry. In this district, however, there is one branch of work which might be pursued with much greater success than was at present the case—namely, the methods of dealing with the various by-products of coal. The distillation of tar might also be taken up in this district to a greater extent than was now the case, and there was no reason why the aniline dye industry, which formerly flourished in this country, should not again be taken up with success.

At Slack, near Huddersfield, excavations have been conducted for some time by the Roman Antiquities Committee of the Yorkshire Archæological Society. The first systematic excavations were conducted in 1865-6 by the Huddersfield Archæological and Topographical Association, now the Yorkshire Archæological Society.

Operations had to be discontinued owing to lack of funds, but the excavators were able to lay bare the remains of a Roman bath-house, and to make it highly probable that the building had immediately adjoined a Roman fort. Excavations were resumed last year by the same society. It is intended to examine each year a fresh portion of the fort area, until the whole has been uncovered, and also to search the adjoining ground for traces of civil occupation outside the ramparts. Last year about a third of the fort was dealt with. It is impossible to keep the trenches open after the close of the season, but a full record is kept of what is found, and a report is to be issued when the work is complete. The fort is situated on high ground, and its position is strengthened by a beck on the south and west. It is of the usual rectangular shape, and covers about three acres. The excavators do not appear to have been particularly lucky in their smaller finds, which chiefly include fragments of pottery. The pottery and the coins, as well as the character of the defences and of the masonry, suggest the probability that the buildings all belong to the period of occupation which closed before 140 A.D. It is estimated that the buildings were meant to accommodate a force of about 600 men. A good deal of work remains to be done, and several minor points of interest to archæologists will possibly be settled by further exploration.

An important decision has been given by a King's Bench Divisional Court, consisting of Justices Coleridge, Horridge, and Shearman, in a special case stated by the Local Government Board under the Housing and Town Planning Act, 1909, in the matter of John F. Lancaster and the Mayor and Corporation of Burnley. Mr. Lancaster was appealing to the Local Government Board against an order by the Burnley Corporation for the demolition of six houses, on the ground that they were unfit for human habitation.

The order for the demolition was served on August 7 of last year, after Mr. Lancaster had unsuccessfully appealed against closing orders which had previously been made. Mr. Lancaster bought the houses in December 1912 to convert them into warehouses, and by the following April he had so dismantled them that they could not be used as dwelling-houses. The grounds of his appeal were that there was no intention to use the houses for human habitation, that they were not a nuisance or a danger to the public, and that the course adopted by the Corporation was oppressive. Counsel contended that the Corporation had no power to make such an order unless the premises were being used as dwelling-houses.

On behalf of the Local Government Board, it was said this was the first case of its kind stated under section 39 of the Act. It was, therefore, of importance, and the Board sought the opinion of the Court upon the question of law in order to enable it to decide Mr. Lancaster's appeal.

For the Burnley Corporation, it was submitted that the section only gave the Local Government Board power to make orders such at it gave to local authorities. If the Board could quash a demolition order it could practically repeal the statute.

Expressing the opinion of the Court, Mr. Justice Coleridge said the case raised an important question under the Act in relation to closing and demolition orders. Section 39 seemed to give very wide powers to the Board to rescind demolition orders on any reasonable ground. It seemed to cover such a case as the present one if the Board were satisfied that the houses were no longer to be used for habitation. The policy of the Act was to give the Board the widest possible discretion to do what was equitable, and to confirm, vary, or quash orders made by local authorities. This answered the question raised.

So many new objects appeal at the present time to the pockets of the "charitable ten thousand" that many older favourites must suffer, and amongst them the Palestine Exploration Fund. In this case, too, there is a special reason for dislocation of activity.

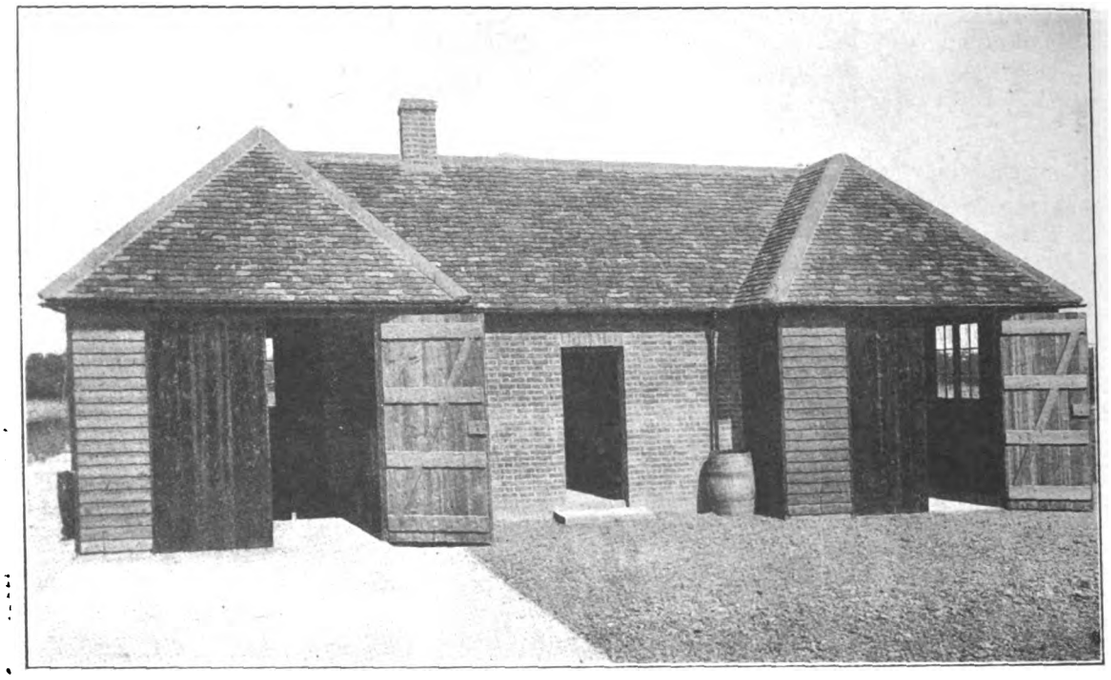
In the "quarterly statement" for the current month of the Fund it is stated that, as a consequence of the war, no serious work of excavation can be attempted for the present. Fortunately the Society's survey to the south of Palestine is already completed, but the pressure on the War Office is likely to delay the completion of the map on which the experts were engaged, since the officers of the Royal Engineers who made the survey now have more urgent duties. The suspension of the work of excavation, it is pointed out, is not without some advantage. The Society has much to do in the publication of the results of work already done and in clearing off the debt accumulated on that work, which has for some little time been a source of anxiety to the committee.

The use of metals in ancient Egypt formed the subject of an interesting lecture by Professor Flinders Petrie to the Egyptian and Oriental Society at Manchester.

Professor Flinders Petrie gave an outline of what we knew "for certain" of the use of the different metals in ancient Egypt. Copper, he said, was used throughout all the periods of civilisation. When the Egyptians had scarcely any pottery and no weaving, when men were buried in goat-skins, the latter were fastened with copper pins. Gold did not come in earlier than silver and lead—in the second prehistoric period. Practically gold did not appear throughout the whole of the first period of prehistoric civilisation. In the royal tombs they found copper much used, including copper wire. Sheets of copper were cut into narrow strips, and these were then treated with the hammer. Bronze, Professor Petrie pointed out, became much later the chief material used, but copper was always used for some purposes, as for domestic vessels. In the second prehistoric period, gold, silver, and lead came in all together. During the first and second dynasties there was a percentage of silver in what appeared to be the gold used to the amount of 13 to 19, showing that electrum was the standard material and not gold. Leaf gold in Egypt was not beaten out so thin as ours. Silver, it appeared, was on the whole scarce. Lead in the eighteenth dynasty came in in large quantities, and then became very common. Pure tin was not found before the eighteenth dynasty, and therefore the bronze found before that time was probably produced by the simultaneous reduction of copper and tin ores together. Arsenic was used as a hardening material from an early period. The common use of iron, Professor Petrie said, began about 1,200 B.C. Antimony was practically unknown in early Egypt, and zinc was not found till Roman times. In the course of his address Professor Flinders Petrie suggested the various localities from which the different metals found in Egypt were derived.

It has been decided to close the Hull Municipal Art Gallery every day at 5 P.M., owing to the fact that after dark the apartments are illuminated from the roof.

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HOUSE AT DENHAM—STABLES.—Mr. F. Bacon, Architect

WAR ITEMS.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received at the Commercial Intelligence Branch of the Board of Trade:—

South Africa.—The officer in charge of H.M. Trade Commissioner's Office at Cape Town mentions, in connection with the competition experienced from Germany in the import trade of South Africa, that it is essential that British manufacturers who are desirous of competing successfully in the South African market should realise the need for both the manufacture of cheap lines and their universal distribution throughout the Union. It is obvious that the better-class articles, by which British firms have made their reputation, meet the needs of the inhabitants of urban communities alone, and are unsuited by reason of their cost to the needs of the rural population of the country.

It is asserted that if British firms are to succeed in their endeavours to capture the competitive trade of Germany in South Africa they must apply themselves to meeting the most minute requirements of the market by manufacturing articles to which the public have become accustomed, irrespective of whether these requirements are in the better classes or cheaper qualities of goods. In this connection it is urged that British manufacturers must give their customers in South Africa credit for knowing the needs of the market, and must place implicit confidence in the South African merchant when he makes known his wants in regard to quality, finish, packing, supply of catalogues, etc.

The officer in charge of H.M. Trade Commissioner's Office has forwarded copies of letters received by the Imperial Trade Correspondent at Port Elizabeth from certain well-known local firms, detailing the classes of goods which have hitherto been imported largely from Germany and Austria-Hungary, and the reasons for the successful introduction of such goods, among which are aprons, leather bags, blankets, brooches, curtains, cottonades, concertinas, quiltings, hosiery, lace, and underwear. The communications in question may be inspected at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

France.—H.M. Consul at Lyons states that he has received from local firms inquiries for the names and addresses of English firms who could supply the following classes of goods in place of those formerly obtained from Germany—viz. carbon for electrodes, caustic potash, all kinds of kitchen utensils (enamelled, plain metal, and aluminium), rubber heels, cutlery, safety razors, typewriters, cotton tape for insulating electric wires, woollen fabrics for making wool vests and undershirts, wool for knitting, thread, powdered milk, pencils and automatic pencils, celluloid toilet articles of all kinds, aluminium articles for toilet and other purposes, porcelain and fancy china, cut glass and fancy glass of all kinds, electroplate, hats, rubber sponges, and Java canvas.

H.M. Consul urges on British manufacturers who wish to substitute their goods for German products in France the importance of sending commercial travellers who will canvas the market energetically, of furnishing catalogues in French, with prices quoted free at customer's address, and of catering for the large demand for low-priced articles of all kinds.

Spain.—H.M. Consul at Corunna also points out the necessity for British manufacturers desirous of competing successfully with their German and Austrian rivals in the Spanish market to send out competent travellers. The Consul adds that catalogues in English, with prices in sterling and weights and measures—not in the metric system—are not appreciated, however well they are got up. In addition, terms of payment must be favourable to customers, to whom German firms have been very lenient in this respect.

United States of America.—H.M. Consul-General at Boston forwards under date September 21 statistics of the imports of various classes of goods of German manufacture into his Consular district during the years 1911, 1912, and 1913, indicating the principal commodities imported from Germany which might at the present juncture be supplied by British manufacturers. Amongst the articles included in the statement are paper stock and rags, bristles, stockings, china and porcelain goods, glass

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discs for optical purposes, bottles, aluminium goods, indiarubber goods, leather goods, musical instruments, oilcloth and linoleum, paints, toys and wool.

Russia.—The British Vice-Consul at Baku forwards (September 12) two reports dealing respectively with Germany's export trade to and import trade from his district, as well as a number of German illustrated catalogues and price-lists of goods largely sold in Turkestan and the Trans-Caspia. The Vice-Consul mentions that he will be glad to receive price lists and terms from British firms capable of supplying the articles therein described, especially those that can be despatched by parcels post. There is likely to be urgent need for drugs of all kinds, and it is pointed out that if it is possible to forward these by parcels post a good cash business could be done. An outlet is required as soon as possible for the Lucerne clover-seed crop.

The reports and catalogues may be inspected by United Kingdom manufacturers and traders interested at the Commercial Intelligence Branch, as above.

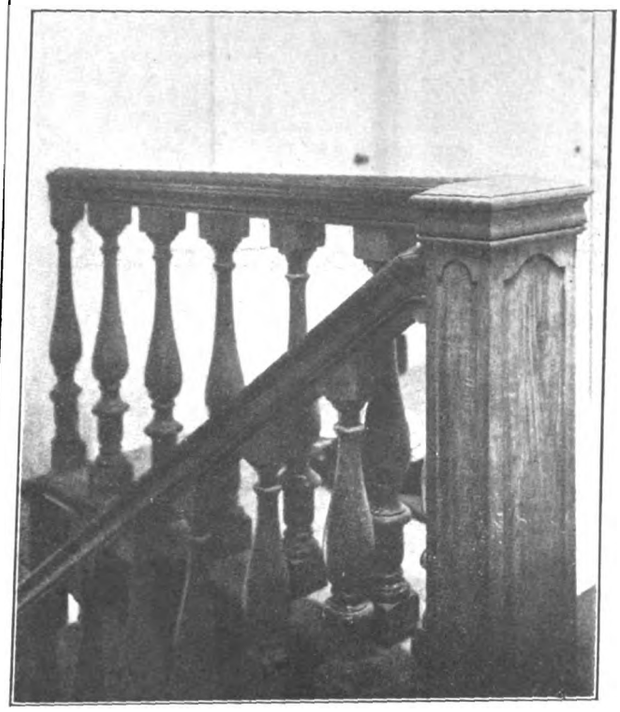
Italy.—H.M. Ambassador at Rome writes (September 13) that at the present moment a very favourable opportunity is offered to British firms to recapture trade in Italy, and especially in Milan. It is stated that not only are importers very uncertain as to the extent to which Germany will be able to supply their demands in the future, but such a wave of antipathy to Germany and German methods has swept over Italy, while at the same time such enthusiasm for England and the English prevails, that there is a desire to deal with British firms and to boycott German trade. It is stated that if competent travellers or agents with a knowledge of Italian and ability to quote prices in the metric system were to visit Milan at the present time they would be able to do an extensive business, and possibly to find new markets. There is stated to be a good opening for pig iron.

Japan and Corea.—H.M. Commercial Attaché has forwarded detailed reports from H.M. Consular officers in Hakodate, Formosa, Nagasaki, Chemulpo, Shimonoseki and Dairen, dealing with the nature and extent of German trade in their respective districts, and the possibilities of British products being introduced to replace German manufactures. The reports in question, which contain comparative statistics of the imports from the United Kingdom and Germany into the various districts, and information as to the various classes of goods in the supply of which German competition is most severe, may be inspected at the Commercial Intelligence Branch, as above.

In connection with the campaign undertaken by the Board of Trade on the advice of their Advisory Committee on Commercial Intelligence to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of inquiries for names of sellers or buyers of articles of which the sources of supply or markets have been interfered with by the war.

Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the inquiries, and lists are being prepared and circulated of articles which inquirers desire (*a*) to purchase and (*b*) to sell. The first and second lists were published on August 29 and September 18 respectively; the third list, in which is incorporated the first and second lists, is now ready, and may be obtained on application to the branch. Firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director of the Commercial Intelligence Branch, Board of Trade, 73 Basinghall Street, London, E.C.

Included in the list of articles which inquirers desire to purchase are general building materials, granite for pedestals, slates and roofing materials, zinc sheet for roofing, baths, cooking ranges, grates, domestic ironmongery, electric fans and ventilators, electric heaters, gas heaters, paints, colours and varnishes, window frames.



HOUSE AT DENHAM.—DETAIL STAIRCASE.
Mr. F. BACON, Architect.

COMPETITION NEWS.

BATLEY.—The Education Committee decided on Tuesday last to accept the plans of Messrs. Walter Hanstock & Son, of Branch Road, Batley, submitted in the limited competition for a proposed Council school at Healey, subject to the school being built for the sum of £3,000 as specified.

LIVERPOOL.—The Housing Committee have announced their intention to invite designs by public competition for their Rathbone Street scheme.

MIDDLETON.—In connection with the scheme for the erection of twenty-four houses for the working classes on land belonging to the Corporation, known as the Boarshaw Estate, the Corporation have selected the plans of Mr. T. A. Fitton, of Middleton, in the architectural competition. The scheme involves an expenditure of about £5,000.

ILLUSTRATIONS.

ANTWERP CATHEDRAL.

IN connection with the article on Antwerp Cathedral (p. 355), we have pleasure in reproducing Hollar's engraving.

TERMINAL STATION, LA PAZ, BOLIVIA.

THIS building is being carried out in concrete by the railway company's own staff. The special fixtures, joinery, and work of more elaborate character was carried out by Messrs. Higgs & Hill, of London.

TERMINAL STATION, ANTOFAGASTA, CHILI.

THIS station is being built in reinforced concrete, Kahn bar system, and faced inside and outside with Doulton's glazed terra cotta. The special joinery and fittings are by Messrs. Higgs & Hill.

Mr. Arnold Mitchell is the architect of both stations.

HOUSE AT DENHAM, BUCKS.

THIS house for Lord Dunedin is built of red facing bricks discoloured by having been stacked in the maker's yard for some years. The roof is of old hand-made sand-faced tiles. There is a large flat on the top constructed with the Vul-

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canite patent, which is hidden behind the ridge tile. The nurseries are on the ground floor by the special request of the client. The main staircase is in teak, the twin panels being 10 inch by 5 inch, and the balusters are turned out of 4½ inch by 4½ inch. Acetylene gas is laid on throughout, and the house has also been wired for electric light hereafter. The stables are constructed with deal weatherboard, treated with coal tar. The main contractors for the work were Messrs. Maides & Harper, of Croydon. The architect was Mr. Francis Bacon.

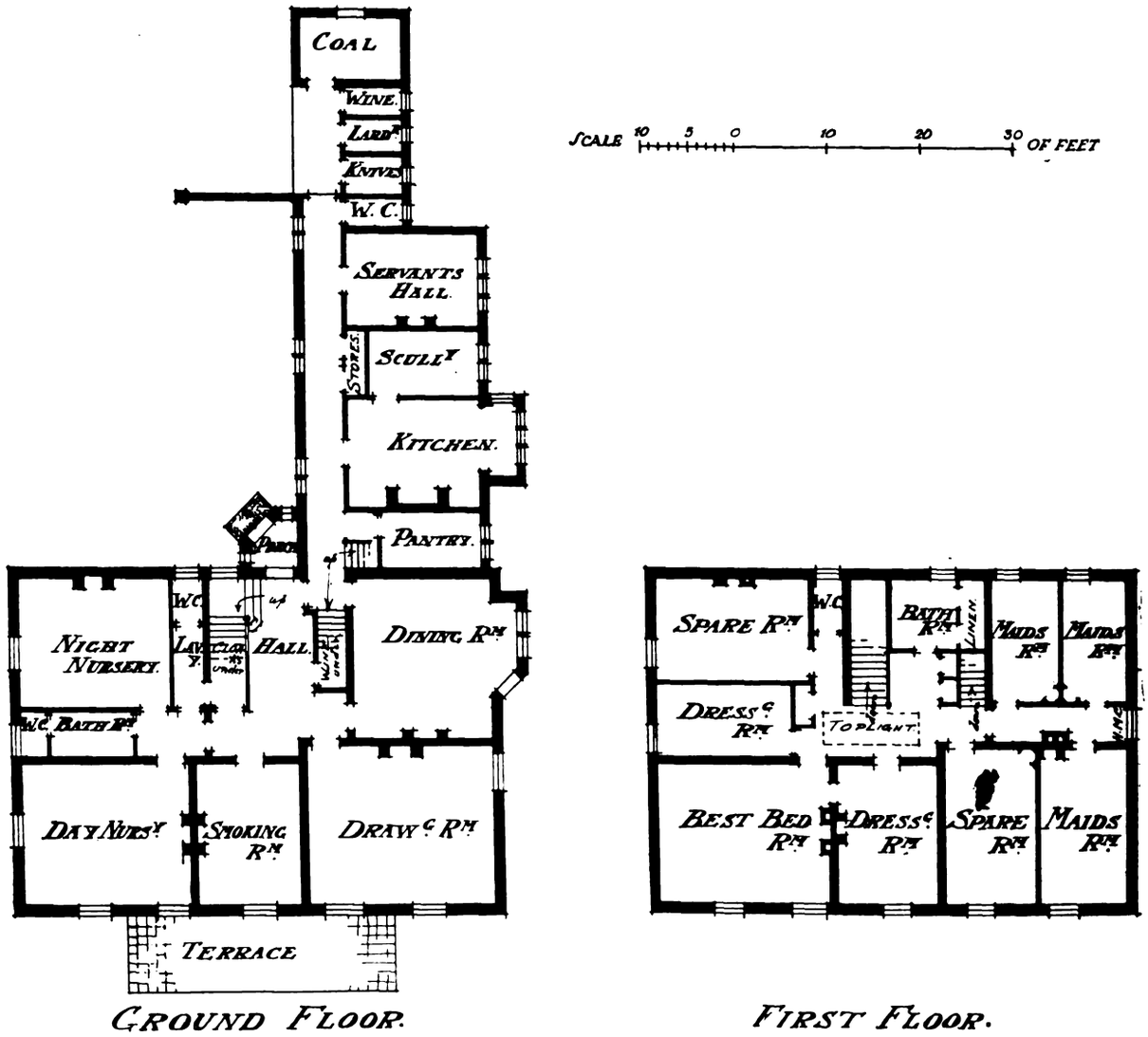
COTTAGE AT DENHAM.

This cottage has been designed by Mr. Francis Bacon, architect, for himself. It is built with red sand-faced bricks and old hand-made tiles. The casements are wrought iron water-hollow, and are glazed with leaded lights. The external walls are 11 inches hollow. The terrace and garden paths are formed with bricks laid dry.

The contractors were Messrs. Hoskings Bros., of Newbury.

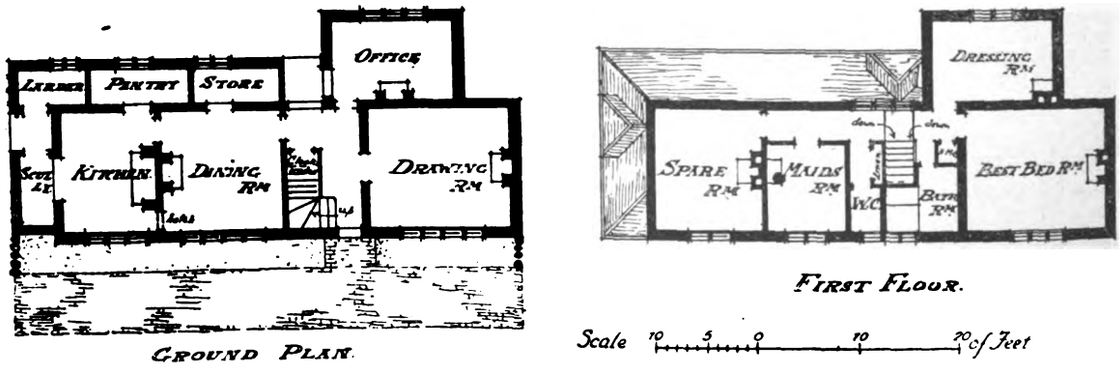
SCHOOL AT OLD BURGHCLERE, HANTS.

This building, erected just under the Hampshire Downs, is the gift of the Rev. Canon Blunt to the parish. The room is divided into two classrooms by means of a folding screen. The flues from the two fireplaces are brought together into the same chimney stack, hence the *raison d'être* for crow-stepping of same. The plan is arranged so as to enable a teachers' house to be added another day. The contractors were Messrs. Hoskings, of Newbury, and they carried out the work from the designs and under the superintendence of Mr. Francis Bacon, architect.



Ground Floor. First Floor.

HOUSE AT DENHAM.—Mr. F. Bacon, Architect.



Ground Plan. First Floor.

COTTAGE AT DENHAM.—Mr. F. Bacon, Architect.

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ANTWERP CATHEDRAL FROM THE WEST.*

By Aymer Vallance.

Wenceslas Hollar was a Bohemian, of Prague, where he was born in 1607. At the age of thirty he was brought over to England by the Earl of Arundel who, while in the diplomatic service, met him at Cologne. On the outbreak of the Civil War Hollar attached himself to the royalist party and was among the prisoners who fell into the hands of the Parliament forces at the capture of Basing House in 1645. Set at liberty, he went overseas and took up his abode at Antwerp. It was during this period, as the date 1649 shows, that he produced the engraving of the Cathedral from the west. Hollar eventually returned to England in 1652 and, notwithstanding his prolific industry, died in great want in London in 1677.

Bryan's "Dictionary of Painters and Engravers" pronounces this particular work of Hollar's to be "very fine," adding the information that "the best impressions are with a single line of writing along the bottom."

The composition owes not a little of its charm to the dark mass of buildings, with crowstep gables, on the right in the foreground. The Gothic of the façade, being no longer vernacular in the seventeenth century, is necessarily rendered by the artist in terms of his own period. Much, therefore, of the vigour and crispness of the original details is missed in the process of translation. The size of the plate, exclusive of margin, is 18 inches high by 13 inches.

The print from which the accompanying reproduction is taken is one of those supplied for the English market, because it bears the title added in English along the upper part across the sky. The ordinary prints for Continental circulation are likewise dated 1649, but without any inscription inside the area of the plate itself. The title, however, is engraved below the foot in Latin, Flemish, and French.

The engraver depicts a religious procession winding its way round the south-west corner of the church through the western entrance. Attention may be drawn to the fact that the latter is divided into two doorways by a central pier, or *trumeau*, a feature of most unusual occurrence in England. Some few yards to west of the north-west tower Hollar shows the old well, happily still surviving. The stone well-head is overshadowed by an open canopy of wrought iron, the whole being a delightful blend of architectural forms with the freer lines of vegetable growth. The curving branches culminate in a statuette of a hero of local fame, the mythical Salvius Brabo. The work throughout presents such evidence of a master hand that it is usually asserted to be the production of Quintin Matsys, who, as is well known, combined in his own person the craft of a blacksmith with that of painter. But the details as well as the whole character of this magnificent well canopy go to prove that it cannot be assigned to any date prior to about 1530, by which time Matsys (if, indeed, he was still living so late) must have been quite eighty years of age. It is most improbable, therefore, that the iron canopy can really be his handiwork.

The present Cathedral structure was begun in 1352, the master mason being Jean Amel or Appelmans. He died in 1398 and was succeeded by his son Peter, who had charge of the building operations until his death on May 25, 1434. The north-western tower, begun about 1422, was finished in 1530. In its lowest gallery is cut the record, "Appelmans fecit." Peter Amel's death is said to have caused so considerable a modification of the original design that the steeple was only completed by the omission of a whole stage from the number of stages first projected. So ingenious, however, was the mason de Waghemakere, who was responsible for the last part of the work, and so exquisitely tapering and proportioned is the whole tower from top to bottom, that no one looking at it would ever guess that it ought actually to have been a stage more lofty than it is. Its height, as given by Hollar, is 451½ feet, or, including 15 feet additional for the cross on the summit, 466½ feet altogether. It must be noted, however, that the Antwerp foot measure, as indicated below the engraving, is shorter by ⅞ inch than an English foot. Baedeker gives the height as 402 (English) feet, and Ysendyck as 122 metres.

The south-west tower up to the point to which it had been carried by 1474, when the building of it was discontinued, matches the north tower, but has never been given the upper stages which were certainly contemplated at the beginning. And yet this undesigned disparity, just as that between the two diverse towers at Chartres and Rouen Cathedrals, or at the Abbey of St. Jean des Vignes at Soissons, ranks among those fortuitous architectural effects which are immeasurably more satisfying to the æsthetic sense than the mathematical uniformity of the twin towers of Coutances, Séez, or Cologne.

Another feature of the exterior of Antwerp Cathedral is the quaint lantern at the point of intersection. The said lantern, octagonal on plan, consists of three diminishing stages of glazed lights—the two lower stages having twenty-four lights each, the uppermost stage sixteen lights—surmounted by a bulb-shaped cupola. As contrasted with the high pitched roofing of the apse chapels at Le Mans, for example, the corresponding parts at Antwerp Cathedral are all covered with flat leads.

The building is cruciform, with an apse having five chapels radiating from the ambulatory. The whole plan is quite symmetrical, except that the southernmost aisle of the nave is about a quarter wider than the corresponding aisle on the north. With its triple aisles on each side of the nave the interior is most spacious and imposing. The nave comprises seven bays, and the quire beyond the crossing three bays. The pier arches of the nave are without capitals, a feature much more characteristic of late Gothic churches on the Continent than in England. But the engaged shafts for the quadripartite vaulting have respond capitals at the springing point, the level of which is not quite half-way up the height of the lofty windows of the clerestory. The latter, in the absence of a triforium, is duly supplied with a passage, the protecting parapet of which forms, as it were, a cornice of pierced stone tracery above the handsome stone panelwork occupying the wall-space of the nave arcades up to the clerestory level. The vaulting was not completed until 1614. In 1521 the first stone was laid for a vastly extended quire and presbytery with subvault, but the heavy expenses entailed by a devastating fire in 1533 caused the project to be abandoned.

The Cathedral having been mercilessly sacked by the Calvinists in 1566, the old furniture, distinguished by its perfect accord with the edifice, unfortunately perished. The new fittings, which ultimately replaced the old, were in the debased taste of the period and had in their turn already disappeared before 1851, when Pugin wrote his account of them in his "Treatise on Chancel Screens and Rood Lofts." The existing great rood, or *croix triomphale*, with its cross of very rich and elaborate character, is suspended from the roof.

The pulpit in the nave is sculptured in wood with a number of Olympian figures. Excessive admiration is wont to be lavished on this late and florid work, which was executed in 1713 for the Abbey of St. Bernard and was not set up in the Cathedral until January 1804.

The loss of its ancient fittings and furniture is, indeed, irreparable, but, for the rest, the fabric of Antwerp Cathedral remains the noblest and grandest in all Belgium.

* See Illustration.

ART IN LONDON.

"EAST AND WEST."

BY EDITH GADDUM.

The present patriotic fervour pervading all ranks is one to be encouraged, more particularly when it takes the form of recognising the larger claims arising from the existing alliance-in-arms of West and East. Miss Gaddum's Water-colour Exhibition at the Modern Gallery (61 New Bond Street) is thus conceived in the spirit of the larger patriotism; for the whole proceeds are to be devoted to the Belgian Relief Fund.

The artist's industry and energy are patent, and her powers of selection are far from negligible; for beautiful and effective as Nature is, it is not everywhere nor anyhow that a subject can be provided worthy of representation. Miss Gaddum has an eye for seeing the compositional value of a dark in-framing foreground, with a panel of light for the distance—witness "Colombo Lake" (6) and "A Vista from Varenna" (16) as especial exponents of this treatment; the latter is peculiarly interesting and even singular, for the picture seems to be altogether in the foreground, with a light grey distance inframed. "A Grey Olive," "Cairo from the Citadel," "Cancello Aperto Cadenabbia," and "The Plank Bridge, Dervio" (the last two being Como scenes), these six are the best of the seventy-six sketches on exhibit. Much of the work is harsh, even crude in technique and lacking in atmosphere and modulation. But it is more grateful to our feelings to dwell upon what is pleasing, such as "Sunset; with Palm," "Spring in the Villa Poldi, Lake

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Como," "Street Scene, Jaipur," "A Reach on the Beauley," "Heather and Stream," and "Heather, near Carrbridge" (these three in Inverness-shire), "The Glade, Cap d'Antibes," and some half-dozen besides; though even now we do not blind ourselves to the fact that we have not, in this exhibition, any extraordinary display of artistic powers.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

Prizes and Studentships, 1915, and the War.

At a meeting of the Council on Monday, October 19, 1914, it was resolved to postpone the prizes and studentships competitions for 1915 until the year 1916. Further, that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the prizes and studentships competitions for the year 1916.

R.I.B.A. Examinations.

The Board of Architectural Education announce that the designs submitted by the following students who are qualifying for the final examination have been approved:—

Subject XVI.—(*a*) Design for an Island Hotel and Tea Gardens.—F. M. Cashmore, R. Frater, L. Heywood, J. D. Hossack, G. B. Howcroft, M. D. N. Koch, W. V. Lawton, C. L. Pace, and C. D. St. Leger.

(*b*) Design for a Dairy and Farmstead.—N. A. Blacklarn, H. F. Chandler, J. C. Farrer, C. Grellier, A. L. Horsburgh, N. Keep, W. V. Lawton, S. A. H. Mackey, J. Moore, J. J. Nathanielsz, T. Rayson, P. N. Stedham, G. O. Venn, and A. G. Wood.

Other Subjects.—H. N. Fisher, design for college library; and A. Smith, design for group of cottages.

THE ARCHITECTS' WAR COMMITTEE.

A recent report of the Architects' War Committee (Mr. C. Stanley Peach, F.R.I.B.A., hon. secretary) states that in response to the appeal sent out the sum of £219 5*s.* for the Prince of Wales' Fund and £664 12*s.* for the General Fund for the assistance of architects in case of distress arising out of the war have been received up to October 7.

In reply to the letter offering the services of architects to the Government, the committee have received a letter of thanks from the Right Hon. Joseph Pease and intimation that the letter had been circulated among the Government Departments interested, and an acknowledgment has also been received from the War Office.

The committee received a request from the Adjutant of one of the new battalions of Lord Kitchener's Army to provide an architect to get in tenders and superintend the erection of huts, and the request was complied with within a few hours.

The War Committee were also requested to find picked mechanics for special service. The work was undertaken by the Architects' Volunteer Training Corps under the direction of the Architectural Association, and the whole of the men required were found within the time stipulated. Further calls also at very short notice were promptly met.

In this connection the officers of the Architects' Volunteer Training Corps desire to thank the architects and builders of London and the trade organisations for their prompt attention to the appeal and the energetic way in which they have all worked to assist the Government in finding the men wanted. All who helped are requested to accept this notice of thanks, as, in view of the magnitude of the work and the number of letters received, it is quite impossible to write individually.

The Benevolent Sub-Committee are considering, in conjunction with the Architects' Benevolent Society and representatives of the Architects' and Surveyors' Approved Society, a scheme for joint action for the relief of distress among architects which may arise in consequence of the war.

A scheme for finding employment has been outlined by Mr. H. V. Lanchester and adopted in principle by the sub-committee. The scheme may be described shortly as a proposed inauguration of civic surveys of all the larger cities. The surveys are to cover the following ground: Archæological, social and recreative, educational, hygienics, commercial, traffic, valuation. The idea is to provide complete data upon which to base town-planning schemes.

An additional scheme is also being prepared which is based on the original proposals made by the Society of Architects—the measurement of buildings of historical and architectural interest, &c.

The Selection Committee, in co-operation with the allied societies, are preparing lists of architects in all parts of the country competent to undertake works which, so far as can be foreseen, are likely to be required by the Government.

A circular letter has been sent to the allied societies asking them to draw up schemes for dealing with distress, &c., in their particular localities.

Up to the present time the committee have no information of any exceptional distress among architects.

An organisation has been formed under Mrs. Maurice Webb to keep in touch with all men at the front who have joined the Regular Forces through the Architects' Volunteer Training Corps, to send them comforts and to look after their wives and families, and see that they have all allowances to which they are entitled and every assistance which can be given.

The wives and daughters of London architects are earnestly requested to give all the assistance in their power to this organisation, and to send any gifts for men at the front to Tufton Street. Mrs. Webb will be glad to hear of any ladies who would be willing to call on the wives and families in their particular neighbourhood, and who would specially look after those in charge of the children of widowers while the fathers are at the front.

THE SURVEYORS' INSTITUTION.

The session of the Surveyors' Institution will open on the 9th prox., when the President, Mr. Howard Chatfeild Clarke, will give his Presidential Address. The gold medal awarded by the Council in respect of the best paper read during the previous session will be presented to Professor W. G. Fearnsides in respect of his paper on "The Part Played by Water in Macadam-road Construction."

Ordinary general meetings will be held on November 23, December 14, January 11 and 25, February 9 and 22, March 8, April 12 and 26, and May 10.

On November 23 Mr. Edwin Savill will read a paper on "The Home-grown Wheat Supply available in War Times." The remainder of the session will be taken up in discussing the acquisition of land for public purposes, introduced by Mr. Andrew Young and Mr. L. O. Mathews; land tenure, introduced by Mr. Joshua Bury and Mr J. G. Head; rating, introduced by Mr. Isaac Dixon and Mr. E. H. N. Ryde; and housing, introduced by Mr. Strachan Gardiner and another.

MANCHESTER SOCIETY OF ARCHITECTS.

The opening meeting of the above Society was held on Wednesday, the 14th inst., when an address was given by Mr. F. B. Dunkerley, F.R.I.B.A., the new President. After some introductory remarks he referred to what he called "the most notable architectural event of the year—the final settlement of the great Exchange problem"—and continued as follows:—

I think we should all have preferred to see a broader view taken in this matter, and it is greatly to be regretted that the City Council and the Exchange authorities could not come to an arrangement to carry out the larger and bolder scheme which was put forward, whereby the whole of the land from Market Street to St. Ann's Street would have been available. The solution adopted is, after all, only a compromise, and I do not think that it will commend itself to future generations, who will wonder how it was we failed to avail ourselves of so fine an opportunity for a great city improvement.

Unfortunately it is very seldom that we find an English Corporation rising to an occasion like this. Our public buildings in nearly all our great cities and towns are placed in cramped and inadequate sites, and excellent buildings look starved and mean without a dignified setting. They manage these things very much better on the Continent, and the criticism that is so often brought against English architects—that they cannot design a great civic building—is, I think, largely due to the fact that they seldom get the opportunity.

However, as regards the actual competition, I think on the whole this was conducted on very fair lines, and we have no reason to complain of the result, for notwithstanding the importation into the final stage of some strong outside talent, the successful firm was a local one, in which our esteemed Vice-President, Mr. Cass, is the senior partner, and we may offer to him our cordial congratulations on his successful treatment of a very difficult problem. We were also very glad to see that another local firm, Messrs. Halliday & Paterson, secured the third premium,

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and as both these men are well-known members of our Society, we may congratulate ourselves that in this matter we obtain a good deal of reflected glory.

The mention of the Exchange, Mr. Dunkerley continued, naturally turns one's thoughts to another question with which a little while ago it was somewhat closely involved. The old infirmary site is still unoccupied save by a few jerry sheds and a great many weeds. I find it rather difficult to speak cooly on this topic. Here is the finest site in the city serving for years no better purpose than a rubbish heap, a miserable eyesore, and a magnificent testimonial to the weakness and vacillation of our city government, and a splendid advertisement for the business capacities of the citizens. The interest charges alone during all these years since the purchase of the site by the city must amount to a prodigious sum, which has been absolutely wasted, and the continuance of this waste should be stopped, and the site put to some useful purpose.

The necessity for a new central library is very urgent, and increased accommodation is almost equally wanted for art-gallery purposes, and if the Council is unwilling to provide for both on this site, it should, I consider, build the library there and extend the present art gallery. But whatever is done I hope we shall see a termination of the policy of vacillation, and that our Society's year of jubilee may not close without seeing a definite end of this painful controversy, of which we are all heartily tired.

An early commencement of operations would be doubly welcome at this time when the distress among the building trades is every day rapidly increasing, as it would find suitable and profitable employment for a large army of men.

As you all know, gentlemen, in April next we shall complete the fiftieth year of our Society's existence, and our Council has under consideration the best means of celebrating our jubilee, but at present no definite decision has been reached owing to the difficult circumstances in which we find ourselves placed. There is, I am sorry to say, at present small cause for jubilation. Many of our members have joined either the Army or the Territorial Force, and of those who remain I fear a large number are feeling severely the financial strain, and the immediate outlook is black. Under these circumstances we feel at present that feasting and junketting are out of place, and it is probable that even our usual annual dinner may this year be abandoned, but I hope that this important anniversary may not pass altogether unnoticed, and that we may at least organise a small exhibition of drawings to commemorate the work of those who have been chiefly responsible in the past century for the adornment of our city.

I do not propose this evening to go deeply into the history of our Society or to give any list of its former distinguished members, but it may be interesting to note the avowed aims and objects of the Society in A.D. 1865. These are put very tersely in four paragraphs.

1. To promote personal acquaintance and good feeling between members of the Society.

2. To establish and maintain an acknowledged code of professional charges and practice.

3. To obtain and consider information respecting competitions and other matters affecting the profession and where practicable to advise with committees and others desiring professional aid, and to endeavour to ensure equitable terms and awards.

4. To afford mutual assistance by advice or mediation in cases of misunderstanding either between members or between them and their employers, or those employed under them.

This sounds to us an extremely modest programme; indeed, a somewhat dull one, and the addresses of the earlier Presidents compare in tediousness very favourably with mine.

The business note predominates, and in its earlier days the Society seems to have been one more for the protection of architects rather than for the advancement of their art. No mention is made of the all-important subject of education, and for many years no papers were read or lectures given before the Society. They were, in fact, expressly excluded. This omission is rather unfortunate for us, as such papers would have formed a most interesting record for posterity and given us a clearer insight into the views and aspirations of the local architects of that time, and there were many able men amongst their number.

And what a different age it was to ours. The preceding decade had seen the triumph of the Gothic Revivalists, and for the moment their victory was almost complete and nearly every building of importance which was erected found its inspiration in some phase or other of the Gothic style.

And with what enthusiasm they pursued their work. They seem never to have had the slightest doubt or hesitation as to their being on the right path, and the controversies on style which have been the bane of our own time were unknown to them.

There is always to me a great deal of pathos in this period of the Gothic revival. The absolute repudiation by succeeding generations of the principles so stoutly championed for some thirty years by a large body of gifted artists should surely give food for thought to those gentlemen of the present day who talk and write with such profound assurance of the classical revival of our time.

I do not wish to see a return made to the practice of those days, but I do not, as some do, regret that the Gothic revival took place, save only for the wholesale restoration of our churches. We are probably beginning again on more wholesome lines, but at the same time there was a great deal that was good; yes, even much that was grand and noble in the work of the best architects of that period, and it has left, like every other past epoch, many lessons which we can humbly take to heart, instead of indulging in mockery and sneers at its expense.

How different was our city at that time. The Town Hall had not been built, and I suppose Albert Square had not yet been cleared. Not a single stone of the Victoria University had been laid. The Assize Courts had not been finished. Deansgate was a slum; neither the Central Station nor the Exchange Station existed. No trams, I believe, not even horse trams, were running in the streets. Electricity either as a motive power or an illuminant was unknown. The choice of building materials was very much more restricted than at the present day. Terra cotta had not come into general use, and the varieties of brick available were but few. Tiles were rarely used in this district, and such fireproofing as there was consisted of cast-iron beams on columns closely interspaced, between which were flat arches of brickwork. The superiority of wrought iron was then unknown, steel beams and joists were not manufactured, and, of course, the peaceful slumbers of the architects of those days were undisturbed by the nightmare of reinforced concrete.

Sanitary science was very much in its infancy, and the restrictions of building by-laws, where they existed at all, were much less stringent than to-day. Altogether the problems of the time were very much simpler, our present day buildings having reached a stage of complication quite unlooked for then.

In this respect the life of an architect must have been easier and pleasanter than it is now. He must have had far more leisure at his disposal to devote to purely architectural work, and the impediments in the way of the realisation of his ideals must have been much fewer. At the same time we must realise that the difficulties of acquiring a knowledge of his art were much greater.

The facilities at the disposal of the modern architectural student were almost non-existent. Books on architecture were scarce and expensive; photography was in its infancy; the professional journals were few, the illustrations meagre and of poor quality, and such a thing as a University course in architecture was unheard of. Travelling, too, was expensive, and the student of that time had perforce to pick up most of his knowledge in the office, supplementing it by sketching and measuring such old work as lay within comparatively easy reach, and remember he had not even the bicycle to help him.

On the whole, however, I think an architect's life (nearly every phase of life for that matter) was easier than it is now. England was more confident of her destiny, and the doubts and fears which have arisen in the intervening years, though they had been proclaimed by men like Carlyle and Ruskin, had as yet taken no strong hold on the minds of men.

The country had passed many years of abounding material prosperity, a prosperity undreamed of in the previous half century. They were satisfied, nay delighted, with their rapid accumulation of wealth, and were untroubled by the thoughts as to whither it was leading them. The rapid increase of the population in our towns had to be met, and tens of thousands of houses were rushed up without any regard to the future comfort and health of their inhabitants, or of their relation to one another. The only idea was to provide a roof for the much wanted workers in factory or warehouse, and any thought of the welfare of their inhabitants rarely entered

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the heads of the builders. And this spirit of greed for wealth has been growing steadily through every decade since, and the ever-increasing competition has driven men into all kinds of despicable paths to obtain money. All classes have been corrupted by it so that mutual suspicion has been fostered on every hand. Any man whose life is inspired by altruistic motives is a puzzle to his neighbours, who suspect him of wishing to grind his own axe, for they cannot understand any other object in life than in the accumulation of little metal tokens.

In 1869, only four years after the foundation of our Society, Matthew Arnold wrote:—

"Wealth, again, that end to which our prodigious works for material advantage are directed—the commonest of commonplaces—tells us how men are always apt to regard wealth as a precious end in itself, and certainly they have never been so apt thus to regard it as they are in England at the present time. Never did people believe anything more firmly than nine Englishmen out of ten at the present day believe that our greatness and welfare are proved by our being so very rich."

What was true in 1869 is doubly true to-day.

If architecture reflects the spirit and aspirations of the times, it is small wonder that the trail of commercialism is so indelibly stamped upon the buildings of our day, and that our streets are full of so much meaningless rubbish piled up for no other purpose but self-advertisement, and expressive of nothing but vanity and vexation of spirit.

The great mass of the people are absolutely unaffected by the hideousness of their surroundings. Most of them, having known nothing better, and their fathers before them being similarly placed, their art sense has become completely atrophied, and what was once the common heritage is felt now only by the very few.

Its manifestation amongst the majority of these last is not encouraging. Appalled by the ugliness of most things modern, they seek refuge not in the encouragement of a living and wholesome art, but they dig into the past and endeavour to surround themselves with the trappings of bygone ages. They scarcely ever succeed, as nineteen-twentieths of the stuff they buy are merely shams, and they have called into being a vast machinery of imposture to minister to their unhealthy cravings. I suppose there must be now thousands of workmen engaged every day of their lives in manufacturing antique furniture, antique pottery, antique metal work, and so on, devoting every hour to deliberate and intentional deception.

Of all the absurd follies of the time, this is one of the worst, and until it dies away there can be no real progress made in the various arts affected. It is the more to be deplored, as there are probably now more clever designers and craftsmen of furniture, metal work, &c., in the country than for many years past, and could they but get sufficient encouragement they would speedily establish a sound and healthy school worthy of the ancient national traditions.

Well, gentlemen, I dare say you will think this is all very discouraging and very pessimistic, but I am going to end my song on a more cheerful note.

I believe that for many years we have been in the trough of the wave, but there are not wanting signs that we are beginning to be lifted up again, and perhaps we shall soon, once more, be on the crest.

In the last few years symptoms of the awakening of the public conscience have been manifested in many directions. Efforts are being made on all hands to bridge the appalling gulf between the rich and the poor, and though these have met with some success, they have of course only touched the fringe of the problem. What has been wanted is some great shock to rouse the people from their lethargy. If a tree will not bear fruit, the wise gardener will root-prune it. Without vision the people perish, saith the prophet, and truly the vision they have had has long been a sordid one.

Gentlemen, I believe the shock has come. Not much more than two months ago we woke up one morning to find ourselves at war, and all our wonderful commercial system in the most appalling danger. We were at war, and not for increase of territory or power, but for a scrap of paper, for the destruction of a military tyranny which had become the nightmare of Europe.

I hate and detest the idea of war, but in the present stage of human development there was no other righteous course, and I was proud that my country took it.

Since that time we have seen many extraordinary things. We have seen young men of this country, and from our colonies and dependencies, in tens of thousands, flocking to the standard to defend the honour of their country. We have seen men and women combining to form all manner of agencies for the relief of suffering and for the alleviation of distress both of our own people and those of France and Belgium.

On every hand one hears the same cry: What can I do to help? Surely such a spectacle is full of encouragement to the social reformer? When the war is over, will things ever be quite as they were? It has taken a great war to teach the nation its duty to its neighbour, and I cannot but hope and pray that a spirit of broader humanity will remain when the great storm has passed.

And we too, surely, may look forward to the future with a stronger hope. Says Ruskin: "All the pure and noble arts of peace are founded on war: no great art ever yet rose on earth but among a nation of soldiers. Commerce is barely consistent with fine art, but cannot produce it. Manufacture not only is unable to produce it, but destroys whatever seeds of it exist. There is no great art possible to a nation but that which is based on battle."

I think myself that this is putting the case rather strongly, and Ruskin himself in the succeeding passages is careful to distinguish wars arising from a noble motive from those waged in an ignoble cause.

I do not for a moment suggest that we shall all see the errors of our ways, and that beautiful buildings will arise in all parts of the country immediately the war is over, but I do feel that a deeper and nobler sense of national life will be aroused among us, and that this will necessarily affect beneficially the architecture of this country.

It always has been and always will be the case that in strange and mysterious ways the architecture of the day is profoundly affected by the national character. If this is strong and virile, the nation's art will be strong and virile. If it is cultured but weak, their art will be refined but weak. If, as in the past fifty years, it is dominated by a somewhat sordid commercialism, the result will be the insincere and blatant type of thing with which we are all so painfully familiar.

Let us hope that our people by this war and its hardships may be more deeply stirred than they have been for a hundred years; that they may awake to the knowledge that the multiplication of cotton mills is not necessarily the highest and best ideal for which to strive. Given a nobler national ideal, a nobler architecture will very soon be forthcoming. And how can we architects prepare ourselves and make ourselves worthy of the opportunity? Self-sacrifice is incumbent upon us, as upon all classes of the community. Those of us who are young and strong enough should volunteer for active service (and I am proud to say that there has been a splendid response among our younger members, and I hope that at the close of the war their names will be recorded in these rooms by some fitting memorial). Those who are not should be able to find some good work to do among the thousands who are feeling acutely the sufferings and the poverty brought about by the war. No assistant should be dismissed, if he can possibly be retained, even though his services are not immediately of much value. Many of us will probably have a good deal more time on our hands than usual, and we might do worse than employ some of it in reviving the half-forgotten lessons of our youth. A self-imposed course of reading the great writers on our art and its history would do none of us any harm, and perhaps some of our number may find time to write and read for us interesting papers.

And let us all make up our minds to do our best to solve the problems which are set us in our work, and not to shirk them.

In domestic work let us recognise that a house is primarily a shelter for the family, and that the health and comfort of its inhabitants should be the first consideration. If a long vista through the middle of the house and a perfectly balanced elevation can be achieved, well and good; but you must not have these at the sacrifice of health and comfort. Above all, let us strive to make the exterior of our buildings expressive of their purpose. A house should not look like a pagan temple or a mausoleum. A bank should be obviously a bank, and not easily mistaken for a police station or a free library. In short, to whatever traditional style we adhere, let us strip the mask off the faces of our buildings. Let us rid them of all that is superficial and all that is meaningless.

If by so doing we can make our city architecture less artificial, less fussy and more sincere, more sober and more

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restrained, even if in the hands of the less gifted among us it is rather dull, it will be a vast improvement on so much of the ambitious but tawdry rubbish of our day.

Let us make up our minds to have less fruitless wrangling about style, less copying the work of others, and more honest endeavour on the part of each one of us to solve our particular problem in the best possible way.

"Excellence dwells among high and steep rocks, and can only be reached by those who sweat blood to reach her."

GLASGOW INSTITUTE OF ARCHITECTS.

The quarterly general meeting of the Glasgow Institute of Architects was held last week in the Secretary's chambers, 115 St. Vincent Street, Glasgow, Mr. John Watson, F.R.I.B.A., president, in the chair. The Secretary reported with regard to the matters dealt with by the Council since the previous general meeting. The following were the principal items: (1) Deadlock in regard to wright work modes of measurement; conferences and correspondence with the following bodies, Scottish National Building Trades Federation, Faculty of Surveyors, and the Edinburgh, Dundee, and Aberdeen Architectural Societies. (2) Honour of knighthood conferred on Sir John James Burnet, LL.D., R.S.A. (3) Proposed View Tower in Queen's Park. (4) Correspondence with Town Clerk regarding erection of Kelvin and Clyde bridges. (5) Alexander Thomson Travelling Studentship postponed.

THE DEMOCRATIC VIEW OF TOWN PLANNING.*

By Professor S. D. Adshead, M.A., F.R.I.B.A.

If town planning is to be the vital force which is to revolutionise the old haphazard methods of town development, and if it is to be something more than an organised effort to superimpose upon dull aggregations of buildings street pictures snatched without reference or meaning from foreign countries and cities of the past; if it is to be something more than a superficial garnishing of façades, a trimming of projecting corners and a straightening of tortuous ways, then it is important that we study the movements and habits of modern urban populations and endeavour to understand the peculiar genius of the people whom it is to benefit.

The scope and possibilities of town planning are as yet unrealised. To the mass of the general public town planning probably means little more than a newly discovered method for preparing by some geometric system a plan for a new town. The architect probably sees in it opportunities for producing continuity in architectural composition, and a means of preventing monstrosities erected by irresponsible people who abuse their individual freedom. The engineer accepts town planning as a science that will assist him in providing a considered convenience in the arrangement and disposition of lines of communication and other services. The valuer and economist comes to believe in it because it helps him to understand the difference between the artificial values that have been acquired by, and the natural values that are inherent in town properties. And the social reformer welcomes it as a basic influence that can alleviate congestion and propound principles for slum reformation.

Town planning, as we should understand the meaning of the term to-day, is both an applied art and an applied science, which in the past has only been consciously recognised in a very partial way. The world has seen many phases and many methods of town planning conceived and practised under a multitudinous variety of circumstances. The Greek colonial chessboard plans, as we find them, say, at Priene or Selinus, were laid out for the specific purpose of distributing a prospective population over a number of conveniently deposed building sites. We are told that in the founding of these colonies parties of colonists were conducted by State officials to a selected spot in the new country, where each was given a numbered square on a gridiron diagram. These allotments were only regarded as leaseholds, the State reserving to itself freehold rights. Obviously the object of town planning with the Greeks consisted in little more than the subdivision of an area into lots convenient for disposal; generally sites for public buildings do not seem to have been provided in the original plan. With temples, however, the case was different: they were usually situated on an acropolis and often outside the confines of the town

It is when we note the site of the agora, the theatre and the pnyx or Council Chamber, that we realise that these public buildings were introduced as afterthoughts, irregularly breaking, as they do, into the inelastic regularity of the simple chessboard plan.

Our knowledge of Roman Town Planning teaches us that practically the same system prevailed here, though architectural splendour was often foreshadowed at the first inception of the scheme. In the two main thoroughfares, the cardo and decumanus, at Timgad in Africa and at Palmyra in Asia Minor there are the remains of noble colonnades evidently designed at the outset to add grandeur to these important main streets.

With the ancients, as with all primitive peoples, the main, if not the only, objective in the founding of a town seems to have been to provide well-shaped and convenient building plots—sites that could easily be measured and transferred, and which would adapt themselves to the erection of a repetition of similar buildings. This idea of town planning seems to have persisted not only with these early peoples, but right through the mediæval period, and, where modern town-planning principles have not been put into practice, up to the present time. We find examples in towns like Winchelsea, and in others founded by Edward VI., of which there are many in the Garonne valley in the West of France. But even more conspicuous are the plans of American towns, and in Canada this square gridiron system of planning is in practice at the present day. One has only to refer to towns laid out under the auspices of the Canadian Pacific Railway, where we see that the practice of retaining certain freeholds is tantamount to what happened in the ancient world more than two thousand years ago.

Strictly speaking, the planning of Hippodamus, and Dinocrates, the architect of Alexander the Great, was the arranging of building sites rather than the planning of a town; so far as can be seen, the direction of lines of communication was never very seriously considered until the sixteenth century, when in Renaissance Rome the Corso was constructed and important centres connected together by cutting new roads through built-up areas.

About the same time we find superimposed upon this idea of providing direct access between important centres a desire for architectural embellishment which was carried by the Louis in France to such a degree of splendour as to make grandeur of architectural treatment overshadow all other considerations. This was royal town planning, and it produced the vistral effect of the Champs Elysées, imitated later in the Unter den Linden at Berlin. Applied to open spaces, it may be seen to advantage in the Piazzas of Italy, in the Place Stanilaus at Nancy, at Mannheim, at Carlsruhe, and in the squares dedicated to Louis XV. at Rheims, Rouen, and at Bordeaux.

But following these regal and autocratic systems we get the ducal efforts of an aristocracy as practised on their ducal estates. We have the best examples here in London, where once more the depth and shape of the building plot is again the deciding factor of the plan. Symmetry, formality, and axiality, however, still prevail, and architectural dignity clothing residential streets, circuses, and squares gives a completeness to every such scheme.

And so we have had primitive site planning, we have had the axial approach planning of the Kings of France, and we have had the well-ordered systems of the great eighteenth-century landowners; but nowhere do we find town planning embracing all the democratic ideals that we are endeavouring to realise at the present day.

Modern town planning aims at understanding and satisfying all the varying needs and interests of our complex democratic system. It does not confine its attention merely to the economic sub-division of an area into so many building plots. It does not concentrate entirely upon the provision of a convenient network of streets and open spaces. It does not aim exclusively at providing fine sites and splendid approaches to buildings, nor are its objectives attained when it has provided healthy housing accommodation for the working classes. It aims at accomplishing all these things and more. The difficulties are enormous, and much that is done to-day is highly experimental, for we must incorporate all the recently developed methods of transit, and we must deal with entirely new methods of

* A public inaugural lecture delivered in connection with the Department of Town Planning of the School of Architecture at the University of London.

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construction. And whilst we are expected to satisfy a popular taste for constant interest, convenience, and creature comfort, we must not neglect those ideals which stand for simple beauty, repose, grandeur, and increased scale.

Such, then, in brief outlines, is the programme for democratic town planning. Let us now proceed to review some of the influences that are at work in its practical application. They are many.

In the first place we have the bureaucratic influence of local authorities, stimulated by an Act of Parliament which emanated from the Local Government Board; then we have the property owner, who develops his estate with enlightened self-interest, broadly and generously; then we have the professional societies, the Civic and City Beautiful Societies, the Garden City and philanthropic associations, and others whose disinterested suggestions for the improvement of other people's property has not always met with the warm reception deserved. But he who would promote town planning must realise that in so doing he is propounding a dangerous as well as a beneficent principle. He must realise that as well as being capable of a splendid use it is also capable of unmitigated abuse. It is misused when it is made to impose upon society conditions of existence that are not based on the broadest sympathies with human nature. When, in its clear visualisation of all that is immediate and obvious, it becomes blind to those transcendental flights of the imagination which always accompany true human happiness.

In making these statements I am aware that I am dangerously near expressing platitudes, but I cannot be too forcible in making the assertion that no other art or science can so easily became material. We all realise how during last century by-laws enacted in the interest of public health, and continually supplemented and revised to control the movements and housing conditions of rapidly increasing populations, ultimately become petrified and stereotyped and quite incapable of that relaxation and adaption to those variable conditions of existence which can alone secure healthy enjoyment and intellectual sanity. This has been generally recognised, and we now have the Town Planning Act, a Bill containing powers for suspending these by-laws, for securing a reasonable amount of open space about buildings, and for doing away with all those cast-iron regulations which throttle initiative and dull imagination.

So far those responsible for its administration are but shaping a course and feeling their way, and the broad-minded manner in which they are at present putting town planning into operation deserves unquestioned approval and our warmest support. However, it is not always well to be too sanguine, for, handled entirely by a powerful bureaucracy, town planning cannot help but be subject to the dangers of petrification.

If a town is to adopt the Act and preserve its individuality, then it must be so framed as to admit of reconciliation to the peculiar conditions of the locality. A clause in the Town Planning Act gives power to the Local Government Board to frame regulations for general acceptance. As yet, and I think quite wisely, this power has not been exercised, presumably to avoid the evil effects of an ill-considered standardisation.

Town planning, to be a success, must command the popular interest; the municipal drawing office must be thrown open to the professional critics, for in this way only can civic patriotism be aroused and the public made interested in and proud of their town. It is generally recognised that to successfully carry a town-planning scheme through the various stages of procedure under the Act the attitude of local authority and property owner must be reasonable and broad-minded. The Act provides for conferences between all who can show an interest. This provision should be stretched to its utmost limits if others than the materially interested are to influence the making of the scheme.

But the dangers of town planning are not entirely confined to the too militant methods of a municipal bureaucracy; there is also danger in relying upon rules and recipes for living which cranks and faddists would have us observe if we wish to secure what they describe as social efficiency. Let me state at once that there is no salvation in mere efficiency—outside Germany. We must ever strive after that which we cannot attain. To be efficient one has merely to be satisfied with a low level of mediocrity and sustain it thoroughly. The efficient town plan of the social crank is that which strictly conforms to the ordinary requirements of ordinary men; but in every group of ordinary men it is a strange thing if there is not found an extraordinary one, a human being whose personality defies analysis and commands attention. Above all things, when town planning for individuals, let us avoid the error of assuming that they can be made the subjects of mathematical classification. And it is well to commence town planning in this anarchical way, for it is over this, and not over living rows of human ninepins, that we must spread the cloak of communal organisation.

I have heard of streets in English towns whose occupants, not knowing one house from another and entering the wrong door, only discover the mistake they have made after meeting another man's wife, or, worse still, someone else's husband! In this kind of street the houses are all standardised, and the inmates become standardised too. Standardisation is a very different thing from encasing groups of buildings in an architectural composition, and I am not sure if to standardise is not more degrading than to allow the erection of a heterogeneous collection of distractions, which is the extreme in the opposite direction. We can become as wearied with buildings all jostling together in an architectural confusion as we can become subdued and anæmic with the effects of standardisation. As town planners planning for a democracy, we should endeavour in public places and in the more closely inhabited areas of a town to introduce a rhythmical continuity or a composition that is symmetrical. It follows, then, that many separate tenements will by the requirements of symmetry need to have their façades exactly repeated, but each will have a definite reference to the whole, and, moreover, every habitation—be it cottage, flat, or stately mansion—should in one way or another express some sign of the individuality of its inmates. It may be by a difference of colour in the door, it may be by a peculiar draping of the curtains in the window, or it may be in the flower-boxes, or only in the door knocker. Such human touches, without encroaching on the rhythm of the "tout ensemble," give life to what would otherwise be the dead bones of a universal conformity.

And herein lies the key to one of the most debatable and difficult problems that beset the serious town planner: the question as to whether a town should be planned on formal or picturesque lines. There are experts who hold that this is entirely a matter of topography, and they contend that when a site is level, then the plan should be formal and symmetrical, and when irregular, submission to nature dictates that the treatment should be picturesque. To my mind the question should not be decided entirely upon issues arising out of the nature of the ground. Formality in architectural composition suggests to me that the tenants who occupy its units are knit together from outside by something stronger than kindred feeling and personal combination. A fine architectural composition will always convey something of that patriotic emotion which is always felt in the presence of organised crowds, processions, and the massed details of an army; so that a town planned for a democracy, if it is to suggest that public control is to watch over private interest, must at certain points conform to the dictates of symmetrical composition and formality.

This does not mean, however, that we are nowhere to enjoy the interests of a picturesque irregularity. The Englishman's house is his castle, and it is only by making it superior in appearance to that of his neighbour that he can hope to sustain his local dignity. He will paint it a different colour, he will plant trees in his garden, or he will have a brass knob on his front door. Whatever the means as a democrat, he will establish his identity.

And now let us consider another phase of the æsthetics of town planning: the dangers of ignoring tradition. To illustrate my point, permit me to quote the substance of a paper which I wrote some five years ago after visiting the modern towns of Germany. I then said: "Germany during the seventeenth and eighteenth centuries was unfortunate in lying outside the geographical line of Renaissance progress, and her war with France in 1870 had rendered her æsthetic isolation the more complete. This æsthetic isolation, accompanied as it was by a period of extraordinary activity, explains in a way the unsatisfactory rendering of so many ambitious schemes. The magnificently laid-out station at Frankfort, the boldly conceived Ringstrasse at Cologne, and the monuments erected to Bismarck and to the Emperor William, fail in giving entire satisfaction on account of the heterogeneous and uninspired collection of detail of which they are composed. After the war Holland and Belgium were ransacked, and the choice morsels of their picturesque detail were misapplied in an extravagant and exaggerated

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form. About the year 1890 German architects, wearied with their own bad resuscitation of Renaissance forms and feeling that every possibility for the display of striking individuality had been extracted from this source, had their attention suddenly directed to the fascinating attractions of that style of architecture which came to be known as l'Art Nouveau. The possibilities it afforded for the expression of their many original and scientifically developed conceptions could not be gainsaid, and l'Art Nouveau was seized hold of and travestied with an enthusiasm almost childlike in its ingenuousness. One can only regard it as a movement which was the outcome of an honest yearning after instinctive expression, but which in an intellectual age must necessarily be an affectation. Germany as an empire has gone mad after originality, and in forcing it has severed all connection with the saner methods of her earlier traditions. Traditions are the stepping-stones of sublime moments which traverse the panorama of experience and history, and which continually carried forward will ever be a guide to the true progress of mankind.

Rather than destroy one feature in our lovely old villages, or a street of architecture erected in the best periods of English history, let us, even at some inconvenience, make a detour and develop our towns and suburbs on new ground.

Never has there been a period in history like the present which could offer greater opportunities for the expression of originality, but let us remember that the sort of originality to which we should aspire will not be attained by shutting our eyes to past achievement, but rather in reincarnating a studied selection of old forms.

The highest conception of a city is an aggregate of human dwellings adorned with associations that are the heritage of time. An old city is the embodiment of history; in a new city history can only be transcribed. The value of the transcription lies in the selection of the things recorded, and not, as the pedant supposes, on the accuracy of the statement or on its value as a mere record. Therein lies the difference between pedantry and originality.

And it is to the artist, poet, and historian that the town planner looks for that inspiration which alone can convert what is merely a senseless aggregation of bricks and mortar into a Paradise of fancy linked with the past and heralding a greater unknown.

Much indeed is expected of the town planner, for not only must he look to the convenience of the community, but also be dictator of the arts, leader of fashion in building, and arbiter in matters pertaining to architectural character and style. His calling is indeed a high one, but that this is his vocation is no idle assertion. Even so plain-spoken a document as the Town Planning Act of 1909 empowers him, in areas under consideration, to determine the character of each building that is to be erected thereon. It is an undeniable truth that a city reflects the character of its citizens, but it is equally true, and a much finer thought, that a great city will inspire its inhabitants to noble deeds. Already since town planning and housing have captured the imagination of administrators, hundreds and thousands of the wretched inhabitants of slums, crowded like vermin amidst the dust-heaps of an insenate industrialism, and now transported into healthy and attractive surroundings, have habituated themselves to an ordinary existence, and, like wild flowers planted in a garden, have unhesitatingly submitted themselves to culture, flourishing wonderfully in their new condition.

In what way, then, can a city be made inspiring to its inhabitants? In what way can it be made to excite their ambitions, lead them to finer achievements, and fire their imagination with the ideals of a nobler life? Only by embodying in its character the noblest associations of the past. To him who reads aright a great city is, indeed, the greatest of all histories; writ on its walls, delineated in its mouldings and ornaments, and felt in its tones and colourings, are the sentiments of nations, as well as the idiosyncrasies of those who individually gave it birth.

The new city must be no mechanical camera outlining in exact profile the sentiment of a jaded Israelite, as we find him wandering in the wilderness during that forty years. Rather must it be a fruitful Palestine, or the Athens of Pericles after the struggle of a Persian war.

No more difficult or vexed question presents itself to the town planner than what constitutes right character and style. In considering it, it is almost impossible to avoid being dragged into the sphere of the metaphysician, but this cannot be avoided. The expression of style, which is crystallised character, is to-day a very conscious act, and the value of a modern example of architecture lies very largely in the intellectual attitude adopted in choosing the style. The more elementary the civilisation the more instinctive it will be, and, in the complexity of modern art, we must needs make of it a highly intellectual affair.

Those great civic effects which in less conscious periods were attained by autocratic influence, and which depended so much on the persistence of a style, can to-day only be produced by a willing combination of effort, by schools, and by a consensus of educated opinion directed to a common end. As an educationalist, therefore, it is the first duty of the civic designer to gather together and focus artistic effort whenever and wherever directed in the building of a town.

Only in great cities can man be humanised. In the words of Pericles it was to this that the greatness of the Athenian must be ascribed. For does not Thucydides credit him with saying:

"We have also found out many ways to give our minds recreation from labour, by the institution of games and sacrifices for all the days in the year; and by the handsome entertainments of private men; by the daily delights whereof we expel sadness. By the greatness of our city also, all things from all parts of the earth are imported hither, whereby we no less familiarly enjoy the commodities of all other nations than our own. And both in this respect our cities are worthy of admiration and also in divers other things. For we study good taste, and yet with frugality, and philosophy, and yet without effeminacy.

And yet again, Philip De Commines, writing of Venice in 1614, says:

"I wondered to behold the seat of this city, so many steeples, so many religious houses, and so much building, and all in the water; but specially that the people had none other passage to and fro in the town but that of boats, whereof I think there are to the number of 30,000, but they be very small. Further, about the city (I mean with the compass round about of less than half a French league) are seventy houses of religion, as well of men as women, all in islands, sumptuously built, richly furnished within and having goodly gardens belonging to them. Those within the city I comprehend not in this number; for within there are, besides these, the four orders of friars, and three score and twelve parishes, besides a number of chapels of the companies of occupations, commonly called Confrairies. And sure it is a strange sight, to behold so many great and goodly churches built in the sea. In the said place of Chafousine came five and twenty gentlemen to receive me, sumptuously apparelled in silk and scarlet, which welcomed me with an oration, and conveyed me to the church of St. Andrew near to the town, whereas many other gentlemen met me, being accompanied with the ambassadors of Milan and Ferrara, and here also they received me with an oration, and afterwards led me into other boats, which they call flat, being much greater than the former. Two of them were covered with crimson satin, and decked within with arras, each of them being large enough to have received forty persons. They placed me between these two ambassadors (for the midst in Italy is the most honourable place) and conveyed me along through the great street called the great Canal, which is so large that the galleys pass to and fro through it; yea, I have seen hard by the houses ships of 400 ton and above. Sure in my mind it is the goodliest street in the world and the best built, and reacheth in length from the one end of the town to the other. Their buildings are high and stately, and all of fine stone. The ancient houses are all painted, but the rest that have been built within these hundred years, have their front all of white marble, brought thither out of Istria an hundred miles thence, and are beautified with many great pieces of Porphery and Serpentine. To be short, it is the most triumphant city that ever I saw, and where ambassadors and strangers are most honourably entertained, the Commonwealth best governed, and God most devotedly feared."

And after describing the gilded chambers he continues:

"But this is no such treasure to make account of as ready money; and yet of money they have no treasure, for the Duke himself told me before the Seniors, that it is among them a capital crime to mention of treasure in coin."

Would that we lived in an age like this, when everything was done with an eye to captivating the imagination, and when treasure in kind was not confused with treasure in coin.

I think it would now be of interest of draw a pen-picture of a modern English town, pointing out the factors of greatest importance in its evolution.

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PRESS CLUB—THE LOUNGE.

Legislation, phases in the development of British architecture, scientific invention, improved methods in building construction, and last, but not least, abnormal developments in commerce and industry, are perhaps the factors which have during the last century exerted the greatest influence in its development. English towns are by no means alike, but variations are less differences of kind than of degree.

Let me take Oldham, a town which has grown with remarkable rapidity, and which illustrates, so far as the outlook of the mass of the people is concerned, not the best but the worst phases of a democracy. Let us note its condition up to the middle of last century, let us note how it developed later, sacrificing everything to an industrial prosperity, and let us note how with the advent of town planning a regeneration has set in. Oldham is an industrial limb of a great concentration of similar inky satellites centring round the cottonopolitan market town of Manchester. It is a black place, a squalid place, a blot on a hillside once beautifully buttressing the elevated plateau of the Yorkshire moors, and separating them from the great Lancashire plain.

It was its prolific water supply which in the eighteenth century meant power, and marked it out as a village that was destined to develop into an important industrial town. We must remember that it first realised its importance early in last century, when building bye-laws were very amenable and almost entirely a matter of local institution. We must remember that it was at a time when in the architectural world the brothers Adam, and other architects responsible for the Greek revival, were exerting an influence over, not only metropolitan buildings, but also over building operations throughout the provinces, and we must remember that during this time the great transition from a rural to an urban existence was affecting the whole of the rural population.

And so we see in the Oldham of 1800 to 1850 a straggling village becoming rapidly overrun with mills and rows of cottages, arranged with little regard for hygiene and less for general appearance, and, though the fine traditions of the architecture of the period creep out in the detail, it is more owing to the habit of the workman than any definite seeking.

We see the lack of hygiene in the narrow court with its common convenience and solitary water-tap. We see it in the row upon row of cottages packed tightly between the mills. And just as it was the habit of the builders to parody good detail, so it was in the bones of the people to have dignified public buildings. We see this in the great though crude Gothic church; we see it in the cold Greek portico of the Town Hall; we see it in the public library, which emulates a Venetian palace as erected by Sir Charles Barry in Pall Mall.

But what of Oldham as we see it to-day? In appearance there has been a change for the worse. True it is that the Public Health Act of 1875 inaugurated an era of good sanitation, and that since the erection of insanitary dwellings has practically ceased. But it gave us martial bye-laws so drastic that they crushed initiative, standardised existence, and extinguished every trace of tradition that had appeared in earlier days. And this was accompanied by the mad rush of industrialism which, with its sacrifice of every intellectual pleasure for monetary gain, crept like a fever into the very vitals of the town.

Mills no longer dependent upon water-power now belch forth their snake-like strings of smoke and blacken the landscape wherever there is available land, and the town, once crowded around its ancient civic centre, now stretches in a sporadic growth for miles.

But have the attractions for architecture entirely ceased? No. That desire for embellishment, at first evidenced in imitating contemporary examples of cultured work carried out in the larger towns, is now expressed in a barbaric desire for kaleidoscopic combinations of fantastic forms, for crude colourings and puerile design. This, combined with a mechanical precision of execution, can only adequately be symbolised in the working of an industrial captive struggling to express a soul.

Let us compare a typical cottage of 1860 with a typical cottage of 1901. There are streets and streets of the former with round-headed fanlight doorways, all the same. They have brackets on their imposts, coarsely detailed; they have four-panelled doors, which are coarser still. But, though crude and clumsy, they are not ridiculous, like the jimcrack travesties of rural half-timber work that followed them. Their lines are horizontal and their shapes, though not refined, are always strong. Peeping through the doorways we see numerous little pictures on the walls, memorial cards in black and silver, pot dogs, wax fruit, and all the well-known "objets de vertu" of the period. The furniture is of solid mahogany, much of it is vulgar and ostentatious, but it is not fragile and fussy like the varnished bric-à-brac of the operatives' drawing-room of to-day. There are rows and rows of such cottages. They rush in all directions, but in straight lines like children's bricks littered on the floor.

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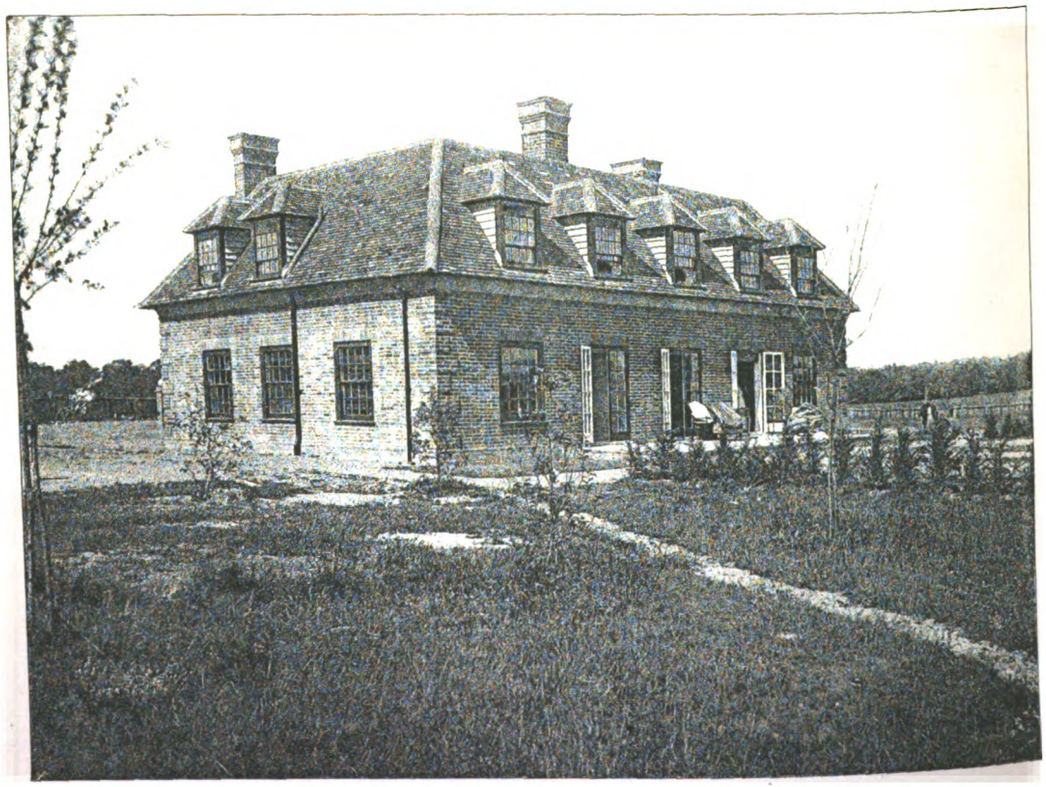
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COTTAGE AT DENHAM.



COTTAGE

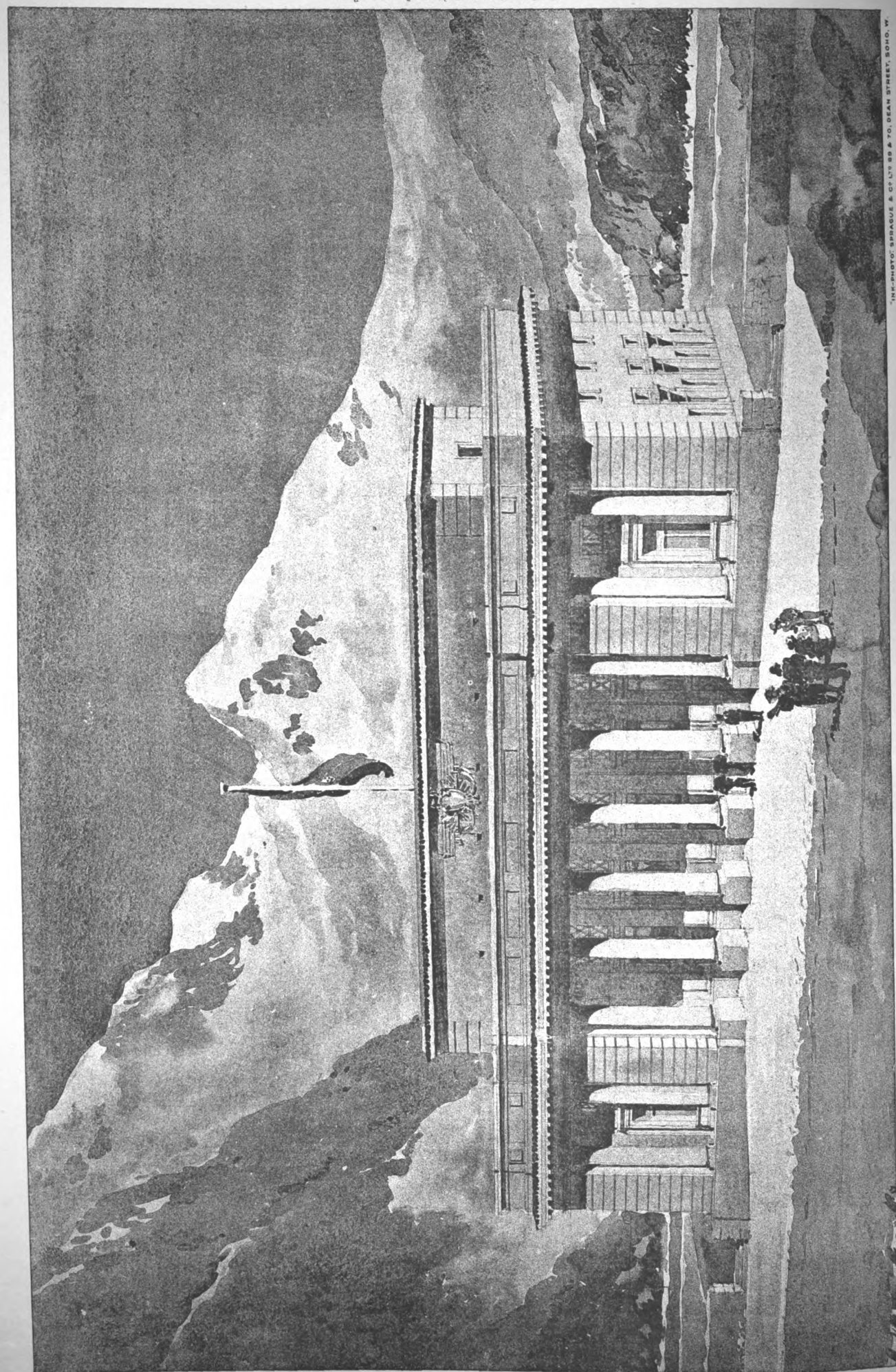


HOUSE AT DENHAM.

Mr. F.

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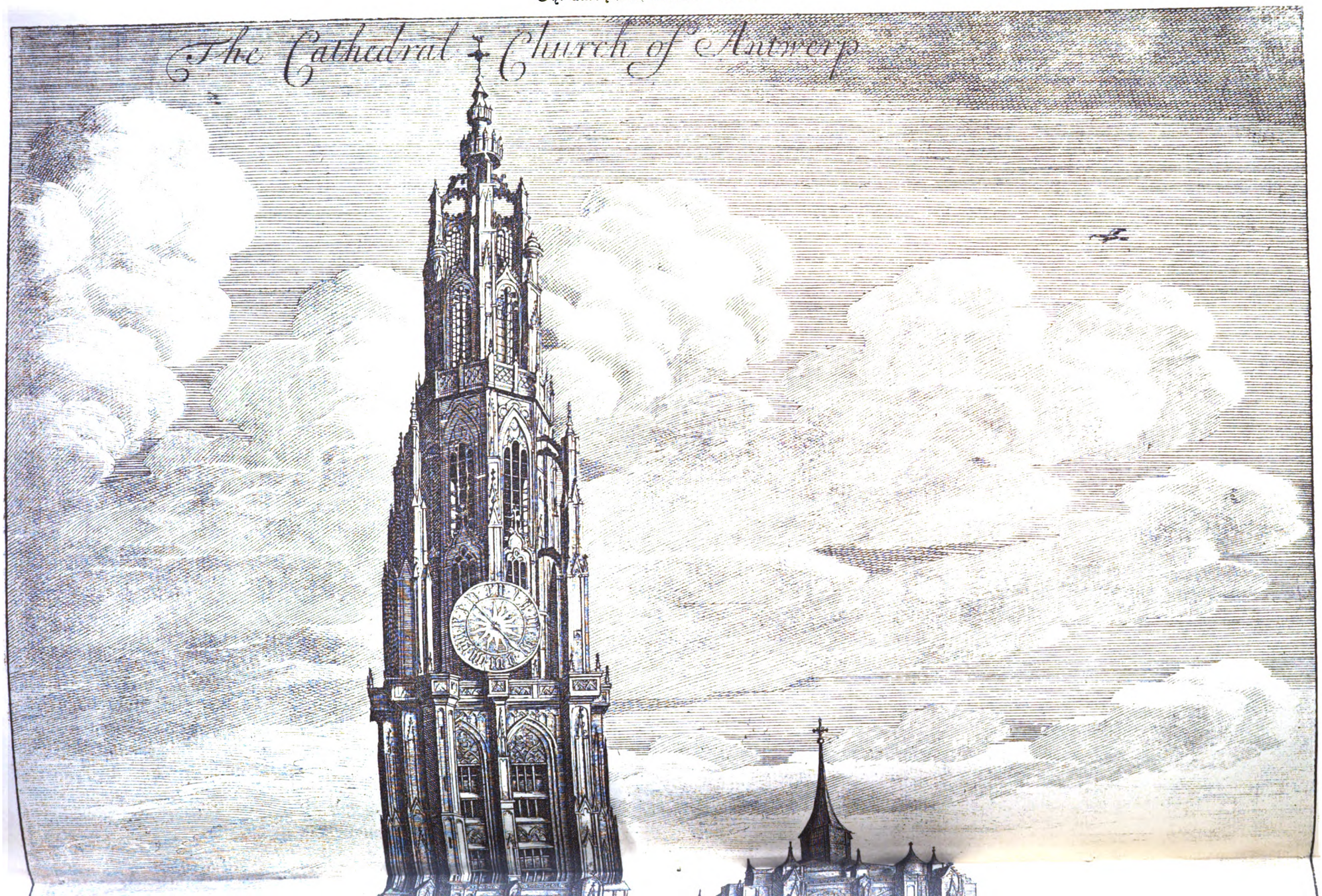
TERMINAL STATION, LA PAZ, BOLIVIA.

(Royal Academy Exhibition, 1914.)

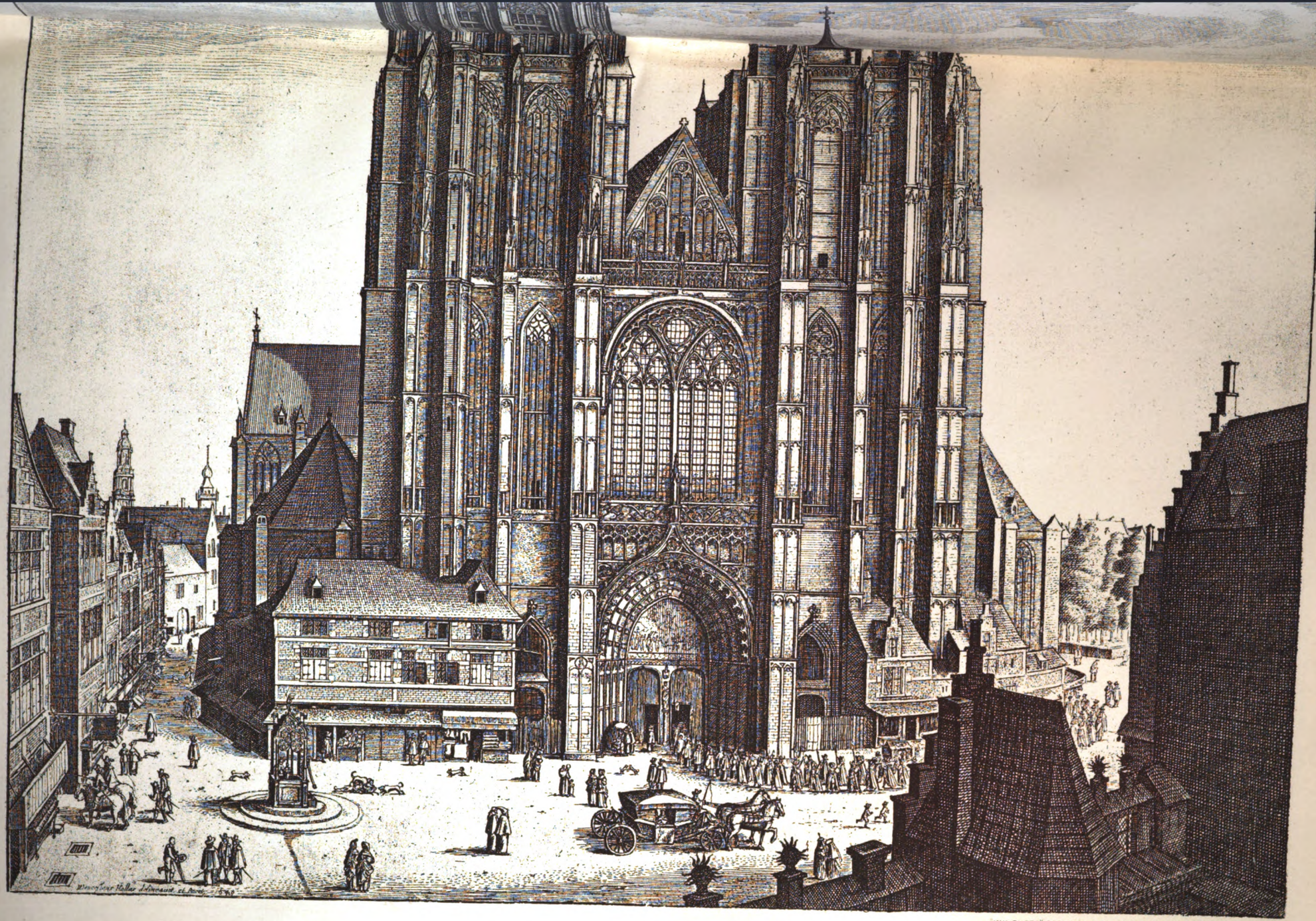
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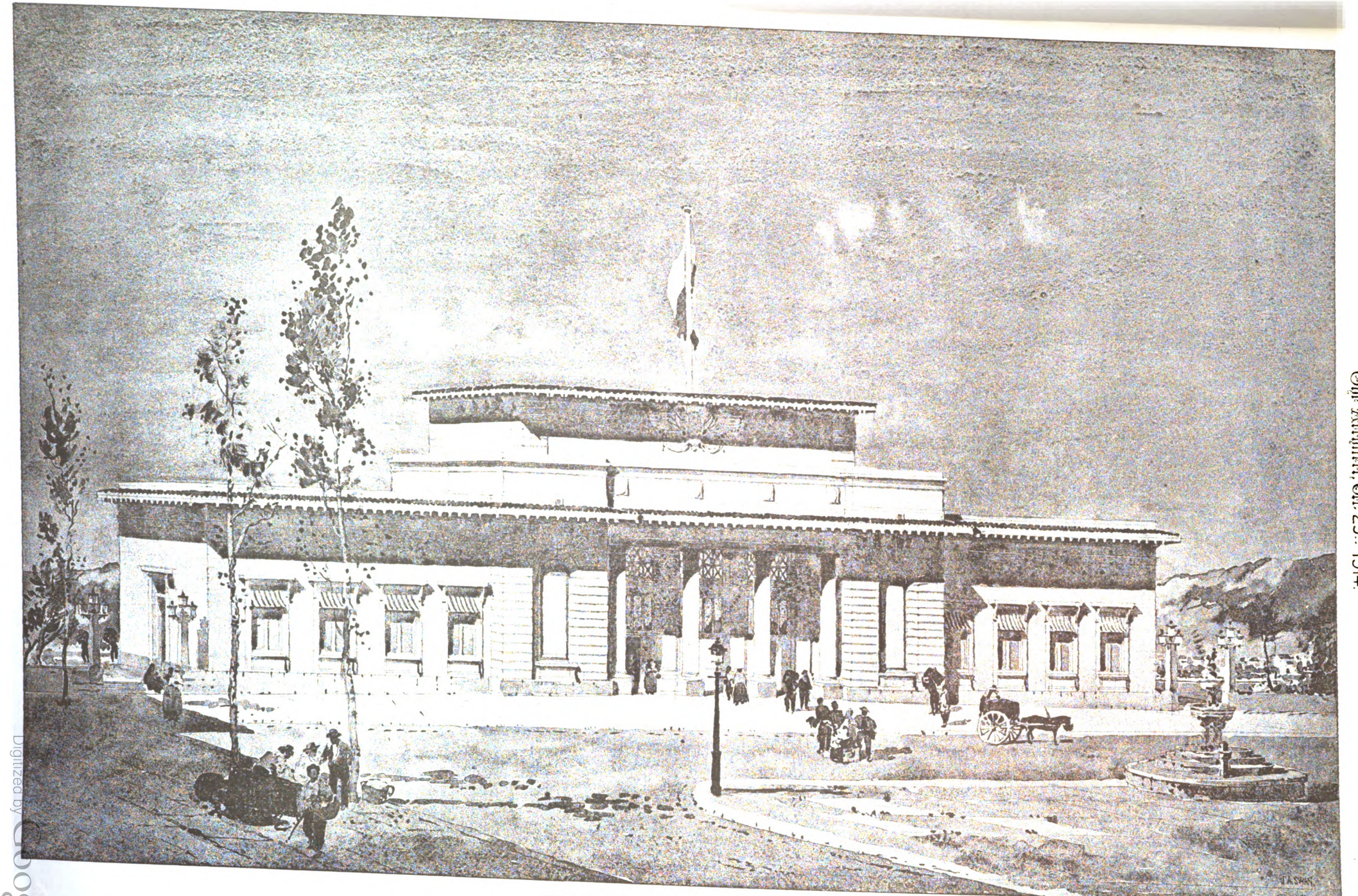
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ANTWERP CATHEDRAL.

From Engraving by HOLLAR.

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TERMINAL STATION, ANTOFAGASTA, CHILI.

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(Royal Academy Exhibition, 1914.)

TERMINAL STATIONS IN CHILI AND BOLIVIA FOR THE ANTOFAGASTA RAILWAY.

Mr. ARNOLD MITCHELL, F.R.I.B.A., Architect.

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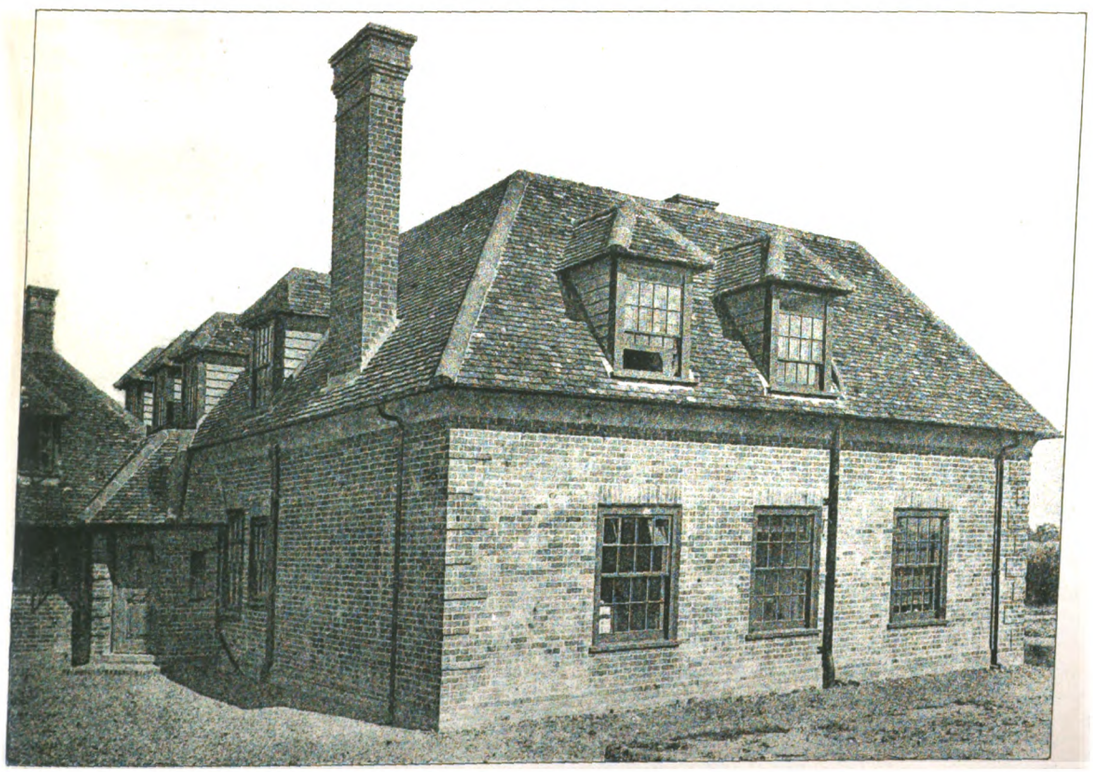
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)ENHAM.



SCHOOL AT OLD BURGHCLERE.



HOUSE AT DENHAM.

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PRESS CLUB—THE SMOKING LOUNGE.

In contrast, let us take a short tram ride and glance at the cottage of the next generation which stretches in groups round the outer ring of the town. Not content with square windows like his parents, the occupant of these later types must needs aspire to a bay, and he has probably a sham-timbered porch to his door. His garden, a five-foot strip of soot-stained turf, or more often bare clay, is protected by a garden wall of adamant brick with splayed stone coping cut with an accuracy that does justice to the machine-made methods that pervade everything around. A peep through the Brussels curtain reveals a drawing-room, carpeted with a cheap imitation Axminster carpet whose hot-brown colour blends horribly with a raw red and a sickly cream. There is an upholstered couch or settee in the window, or a stamped copper vase on a bamboo tripod stand. Opposite there stands a thickly varnished side-board whose mirror is surrounded with spindle-shaped columns and alcoves filled with German-made pots, vases, and plates. Everywhere are hindrances to a straightforward existence. Everywhere is a confusion of useless articles suggesting that towns like Oldham are the dumping grounds of furniture firms from round the back of Farringdon Street and Tottenham Court Road.

This somewhat gruesome picture of Oldham has reflections in almost every English town. Always somewhere on the outskirts is a jimcrack villadom, always somewhere is there an insipid early nineteenth-century church, library, or public hall.

Here, then, the case for democratic town planning is presented. Clearly its interests are not confined to the mapping of roads and adjusting of building sites. Its interests penetrate the very interior of the home.

THE PRESS CLUB.

A few days ago the Hon. Harry Lawson, M.P., informally opened the new premises of the Press Club which have been established at St. Bride's House, Salisbury Square, E.C. They are immediately to the south of St. Bride's Church and just escape being overshadowed by Wren's "madrigal in stone."

Not many people realise how very far back the connection goes between Fleet Street and Literature, or rather "all the craftes of prynters, boke-sellers, and stassyoners." In this corner of it the printing press has been busy for more than four centuries. That is ever since the time when in 1500 Wynkyn de Worde established himself "in parochia Sancte Brigide," and two years later issued his *Ordynarye of Crysten Men* at "the sygne of the sonne in the flete strete." This great pupil of Caxton died about 1534 and left directions that he should be buried before the high altar of St. Katherine in St. Bride's. Wynkyn bequeathed £36 to the parish in the vain hope of securing an anniversary service.

The site of the Press Club no doubt formed part of the precincts of St. Bride's Church in 1235, when one named Henry de Battle fled for sanctuary after killing a man on the king's highway. Later we find that, as customary, the burial ground was on this south side of the church. In 1610 the Earl of Dorset found it so obnoxious in his adjoining Dorset House that he bribed the parish to cease any further use of it. However, no one who goes to the club will think of such gruesome incidents. The corpses are now as harmless as the smells of the Fleet Ditch, which in 1290 not only overpowered the incense in the chapel of the Whitefriars' monastery close by, but even caused the death of some of the Carmelite monks. As its name indicates, the Press Club is intended for journalists. At St. Bride's House there will be a continuance, or rather a development, of those traditions which have made membership a privilege.

ARCHITECTS' SUCCESSFUL CLAIM FOR FEES.

On Friday, October 16, Mr. Justice Sankey, sitting in the King's Bench Division, decided an action brought by Mr. Charles Hadfield and Mr. Matthew Ellison Hadfield, architects, of St. James's Street, Sheffield, in which they claimed from Mr. George Robson Marples, of Thornton Hall, near Bakewell, Derby, the sum of £338 18*s.*, which they alleged was the balance due of a sum of £838 18*s.* professional charges for services rendered in connection with extensive alterations carried out at defendant's mansion.

Appearing for the plaintiffs, Mr. Scott Fox, K.C., said in 1911 Mr. Marples engaged the plaintiffs to act as architects in connection with the extensive alterations of his mansion. The work occupied a long time and plaintiffs incurred considerable expense, while there were a large number of consultations. Mr. Marples had paid £500, but a dispute had arisen over charges made by the plaintiffs, chiefly in regard to £172 for an assistant's wages and £350 for a number of changes in plans made at the defendant's suggestion. The defence now set up was that there was a verbal agreement under which plaintiffs were to receive 5 per cent. upon the cost of the work executed through them and travelling and out of pocket expenses. The work, said counsel, was of an exceptional character, the hall having cost from £50,000 to £100,000 before alterations began, and it was customary for special charges to be made in such cases.

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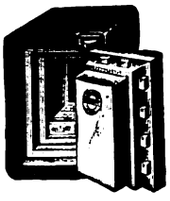
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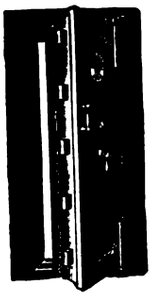
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Evidence was given by Mr. C. M. E. Hardfield, who said his firm had altogether superintended alterations at the hall which cost £65,000.

His Lordship decided in favour of the plaintiffs on a preliminary point that there was no binding agreement by the plaintiffs to accept payment on the 5 per cent. basis, and the question then arose whether the charges made by the plaintiffs were reasonable. Evidence was given by Mr. Matthew Garbutt, F.R.I.B.A. and civil engineer, of London, who went through seriatim the list of charges made by the plaintiffs. He expressed the opinion that the charges were reasonable and the plaintiffs were not likely to be properly remunerated by payment on the basis of 5 per cent. The work was complex owing to the fact that it was an old residence that was being altered while the owner was in residence.

For the defendant professional evidence was given by Mr. Bunney, F.R.I.B.A., and Mr. Horace Field, A.R.I.B.A., who expressed the opinion that in a case such as this where the cost of the work was between £10,000 and £12,000 the scale of charges should have been 5 per cent. on the cost of the work and out of pocket expenses. Special charges should only apply to works costing about £2,000.

His Lordship said if he had to construe the rules of professional practice he thought he should come to the conclusion that this was an exceptional case and not an ordinary case of alterations and additions, and that 5 per cent. was not sufficiently remunerative. He held that the charges made by the plaintiffs were reasonable and they were entitled to a balance of £183 3*s*. Judgment would be entered in their favour for that amount, with costs.

It was stated during the case that £150 had been paid into Court by the defendant.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Amersham.—Isolation hospital. Messrs. Wills & Kaula, R.I.B.A., architects, 3 Southampton Street, Bloomsbury, London.

High Wycombe.—Saunderton Infirmary: additions. Mr. T. Thurlow, architect, 25 High Street.

CHESHIRE.

Dutton.—Workhouse: alterations, &c. Messrs. Wright & Hamlyn, architects, Sankey Street Chambers, Warrington.

Marple.—Tuberculosis hospital, Nab Top. Messrs. Sankey & Cubbon, F.R.I.B.A., architects, 42 John Dalton Street, Manchester.

CORNWALL.

St. Breward.—Proposed Council school for 150 places.

CUMBERLAND.

Dalston.—Two cottages, Rosebank, for the Ecclesiastical Commissioners. Messrs. Smith, Gore & Co. (of Westminster), surveyors.

Wetheral Shiels.—Mansion. Mr. W. C. Boyd, architect, 50 Wellington Street, Glasgow.

DERBYSHIRE.

Foston and Scropton.—Public elementary school for 120 places.

Shirebrook.—One hundred houses (£20,000), for Blackwell R.D.C.

DEVON.

Okehampton.—Proposed children's home, for B.G.

Topsham.—Co-operative premises. Mr. R. M. Challice, architect, 14 Bedford Circus, Exeter.

DURHAM.

Hartlepool.—Thirty-four Council houses.

ESSEX.

Brentwood.—Asylum: medical officer's residence (£1,250). Mr. G. T. Forrest, County architect, 73 Duke Street.

GLOUCESTERSHIRE.

Bristol.—Proposed public baths, Gloucester Road, Horfield (£1,500).

St. Gabriel's Parish Hall, Goodbind Street (£1,150). Sir Frank Wills & Sons, R.I.B.A., architects, 15 Orchard Street.

LANCASHIRE.

Barrow-in-Furness.—Carnegie Library.

Bolton.—Business premises, Raphael Street: extension. Messrs. Potts & Hennings, AA.R.I.B.A., architects, 34 Victoria Buildings, Manchester.

Buildings, Bank House Farm, for Right Hon. the Earl of Ellesmere.

Farm, Breightmet Hill West: alterations. Messrs. T. E. Smith & Sons, architects, Central Chambers, Fold Street.

Ten houses, Normanby Street, for Messrs. Hughes Bros.

Kindergarten School, Hawthorn Road. Mr. J. Simpson, F.R.I.B.A., architect, 14 Acresfield.

Shops, St. John's Road, Lostock: additions, for Westhoughton Co-operative Friendly Society.

"Corporation" Tavern: alterations, for Messrs. W. Tong & Son.

Eccles.—Council school, Monton (£3,470).

Nelson.—Church school. Messrs. Gunson & Son, architects, 10 Marsden Street, Manchester.

Salford.—Electricity Works, Frederick Road, Pendleton: additions. Borough electrical engineer.

LEICESTERSHIRE.

Countesthorpe.—Two Staff cottages, for the B.G. (£750).

North Evington. — Workhouse Infirmary: extension (£20,000).

LINCOLNSHIRE.

Lincoln.—Picture House, High Street, for Lincoln Picture House Company, Ltd.

Council school, Mount Street.

Stamford.—Twenty-four workmen's dwellings (£4,100).

NORFOLK.

Foulden.—Six houses (£1,250), for Swaffham R.D.C.

Wendling.—P.M. Church (£600).

NORTHAMPTONSHIRE.

Yardley Hastings.—Premises, for the Co-operative Society. Messrs. Sharman & Archer, architects, Sheep Street, Wellingborough.

NORTHUMBERLAND.

Newcastle-on-Tyne.—Forty-four working-class dwellings, Walker Road (£7,200).

Girls' secondary school, Ravenswood Road, North Heaton.

Upper-standard school, Walker New Road.

SOMERSET.

Bath.—Secondary school.

Chard.—Three Council houses. Council surveyor.

Taunton.—Proposed public baths (£3,000).

STAFFORDSHIRE.

Lichfield.—Three houses, Levett's Fields. Mr. J. R. Deacon, builder, Lombard Street.

"Gaia Fields" House: additions, for Mr. G. S. Russell.

Stoke-on-Trent.—Public elementary school, Northwood.

Wolverhampton.—Public elementary school, Brickkiln and Oak Streets.

SURREY.

Farnham.—Workhouse: alterations.

SUSSEX.

Bexhill.—The "Castle" Hotel: alterations. Mr. J. B. Wall, F.R.I.B.A., architect, 13 Devonshire Road.

Felpham.—Six artisans' cottages. R.D.C. surveyor (Westhampnett).

WARWICKSHIRE.

Atherstone.—Junior Mixed and Infants' Council Schools: enlargement. County architect.

Binley.—Council School: extension. Mr. A. J. Lord, contractor.

Birmingham. — Factory. Messrs. Ewen Harper (F.R.I.B.A.), Brother & Co., architects, Ruskin Chambers, 191 Corporation Street.

Coleshill.—Catholic Hospital: ward.

"Green Man" P.H.: additions, for Messrs. Phillips & Marriott (of Coventry).

Foleshill.—Proposed thirty workmen's dwellings (£6,600). Mr. A. E. Newey, Council surveyor.

Hampton.—Hampton Manor: lodge, for Lady Peel.

Marston Green.—House, for Mr. G. Davies.

Water Orton.—Four houses, for Messrs. B. & P. Kelsey.

YORKSHIRE.

Driffield.—Proposed isolation hospital for thirty-two beds (£15,000).

Hull.—Two hundred and fifty working-class dwellings, New George Street district (£100,000).

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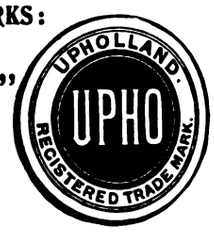
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ENGLAND—*continued.*

YORKSHIRE—*continued.*

Leeds.—Tramway offices (£32,000).

Riccall.—Sauce and pickles factory, for Messrs. Fletcher (of Shipley).

Scarborough.—Shops, &c., Royal Albert Drive, for the Town Council. Mr. H. W. Smith, A.M.I.C.E., Borough surveyor, Town Hall.

Sheffield.—Brewery. Mr. A. Ranweek, architect, 87 Fargate.

WALES.

Aberystwyth.—Town Hall: alterations (£550).

Bull Bay.—Pumping Station, &c., for the Most Hon. the Marquess of Anglesey. Messrs. T. B. Farrington & Son (of Llandudno), civil engineers.

Cardiff.—Offices, for Insurance Committee, Cathays. Mr. W. Harpur, City engineer, City Hall.

Cwmbach.—Council School: extension.

Hendrefoilan.—Proposed isolation hospital (£40,000), for Swansea House Committee.

Rhuallt.—Council school (£1,650).

Swansea.—Council schools, Brynmill and Cwmbwrla.

SCOTLAND.

Aberdeen.—Factory, South Esplanade East, for the Albuminoids Products Company.

Arbroath.—Smallpox and tuberculosis hospitals.

Dunfermline.—Sanatorium for thirty beds (£8,290).

Dysart.—Board school (£9,250).

Edinburgh.—Four cottages, Liberton Road, Braid Hills, for the employees of the golf course.

Old Corn Exchange: alterations. Mr. J. A. Williamson, A.R.I.B.A., architect, Public Works Office, City Chambers.

Falkirk.—St. Modan's Church (accommodation for 750). Mr. P. M. Chalmers, architect, 95 Bath Street, Glasgow. Mr. Gardner, contractor.

Haddington.—Picture House, Ball Alley, for Mr. Cadona.

Motherwell.—Municipal cottages.

IRELAND.

Kingstown.—Thirty-six artisans' dwellings, Sallynoggin (£7,900).

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Concrete Foundations for Guns.

SIR,—The recent disclosures as to discoveries of massive concrete foundations in various parts of the United Kingdom, suspected to have been provided as beds for heavy German guns, is my excuse for asking you to insert this letter in your next issue.

I appeal to all contractors and builders to communicate with the authorities as to any exceptionally heavy concrete work put down during the last few years, for persons other than well-known and bona-fide customers.

The authorities will, I feel quite sure, treat any such information with the strictest confidence, and any inquiries they may make will be carried out with due secrecy. I cannot help thinking there are many other places than those already discovered where suspicious work of the kind named has been carried out.

I enclose my name and address, but not for publication.

—Yours faithfully, AN ENGLISHMAN.

October 21, 1914.

The Artists' General Benevolent Institution.

SIR,—We, the undersigned portrait painters desirous of helping artists and their families at this time, propose the following scheme for adding to the funds of the Artists' General Benevolent Institution.

Any member of the public may, by the payment of fifty guineas to the Secretary of the Artists' General Benevolent Institution, 3 Charles Street, St. James's Square, London, S.W., receive a voucher which will entitle the holder to commission a portrait of any soldier, sailor, doctor, or nurse who has served, or is serving, the King in the war, to be painted by any of the undersigned artists; and we agree each to paint two such portraits, the canvases not to exceed in size 24 by 20 inches.

Application for vouchers, accompanied by cheque, should be addressed to the Secretary, Artists' General Benevolent Institution, 3 Charles Street, St. James's Square, London, S.W. Vouchers will remain valid for at least six months after the end of the war.

Purchasers are requested, in selecting a painter, to send in a numbered list of the names in order of preference, as in the event of more than two applications being made for the same artist a ballot will be taken. Should the purchaser of a voucher still fail in the choice of a painter, a second list may be sent, or he may have the fifty guineas returned.

Yours, &c.,

A. Airy, George Bell, Pilade Bertieri, Percy Bigland, Oswald Birley, John Bowie, H. Harris Brown, F. C. B. Cadell, Frank Calderon, Frank W. Carter, George Clausen, John Collier, Philip Connard, A. S. Cope, John da Costa, F. Cadogan Cowper, John Crealock, Frank Dicksee, Sholto J. Douglas, Luke Fildes, S. Melton Fisher, Stanhope A. Forbes, Eric George, Louis Ginnett, Hugh de T. Glazebrook, J. E. von Glehn, W. G. von Glehn, T. C. Gotch, Ronald Gray, Maurice Greiffenhagen, Arthur Hacker, Harriet Halhed, J. McLure Hamilton, George Harcourt, Alfred Hayward, Keith Henderson, J. Young Hunter, Richard Jack, Augustus John, Louise Jopling, Gerald F. Kelly, T. B. Kennington, G. W. Lambert, J. St. Helier Lander, Philip A. de Laszlo, John Lavery, Flora Lion, William Llewellyn, W. Logsdail, J. Longstaff, Mouat Loudan, L. D. Luard, Seymour Lucas, Harrington Mann, J. Coutts Michie, Mark Milbanke, Gerald Moira, Waldo Murray, G. Hall Neale, William Nicholson, Gabriel Nicolet, A. T. Nowell, Dermot O'Brien, Herbert Olivier, William Orpen, Catherine Ouless, Walter W. Ouless, Alfred Praga, W. B. E. Ranken, W. B. Richmond, Hugh G. Riviere, T. Martine Ronaldson, Walter Russell, Frank O. Salisbury, Mark Senior, Charles Shannon, J. J. Shannon, Walter Sickert, Charles Sims, F. M. Skipworth, S. J. Solomon, Harold Speed, William Strang, W. R. Symonds, A. Chevalier Tayler, C. L. Colyn Thomson, Edwin A. Ward, G. Fiddes Watt, G. Spencer Watson, Daniel Wehrschmidt, Guy Wilthew, T. Blake Wirgman.

3 Charles Street, St. James's Square, S.W.:
Oct. 13, 1914.

THE Rev. J. Charles Cox, LL.D., F.S.A., who has twice visited Louvain, is willing to give a gratis lantern lecture with many special slides, including Rheims Cathedral, entitled "The desolated city of Louvain, and other evidences of the barbarism of German military operations," on condition that at least £5 is guaranteed for the official Belgian Relief Fund. He has no spare dates left during October. His address is 13 Longton Avenue, Sydenham.

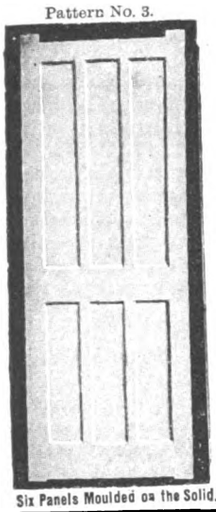
MR. G. H. FELLOWES PRYNNE, F.R.I.B.A., has completed plans for the rebuilding of the parish church at Wargrave, Berkshire, which was greatly damaged by incendiaries some months ago. The cost is estimated at £13,000. Immediate steps are to be taken to get in the foundations and to protect the tower, &c., from the weather.

THE Birmingham Art Gallery has been enriched by the addition of two pictures by Albert Moore, entitled "Canaries" and "Sapphires," which have been given by Mr. Austen Chamberlain, M.P., and Mr. Neville Chamberlain, in memory of the late Mr. Joseph Chamberlain, who in his lifetime was a generous donor to the City Art Gallery.

THE Trustees of the National Art Congress Studentships Fund (Sir Whitworth Wallis, Mr. Reginald Blomfield, R.A., and Professor Lethaby) have awarded their first scholarship of £40, tenable for one year, to Mr. G. B. Mason, student at the Vittoria Street School for Jewellers, Birmingham. Mr. Mason is a die-sinker, seventeen years of age. The award is made for a head, in bronze, of a cock, exhibited in the national competition of art students' work, South Kensington.

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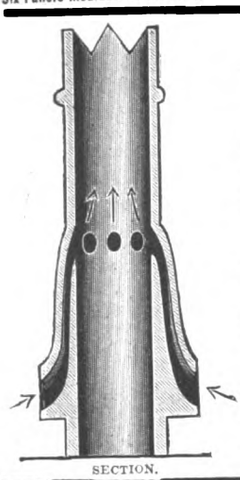
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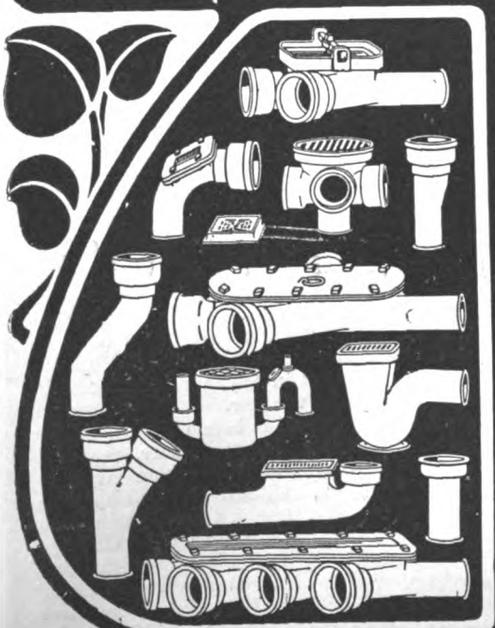
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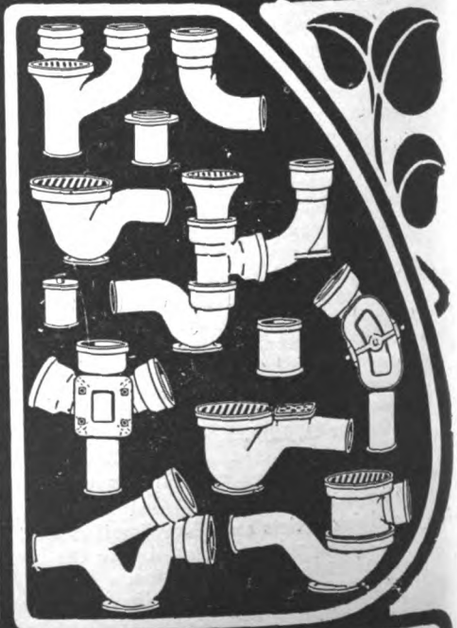
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THE ARCHITECT

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FORTHCOMING EVENTS.

Friday, October 30.

Historical Association: Paper entitled "Roman London," by Professor F. J. Haverfield, at University College, Gower Street, at 8 P.M.

Saturday, October 31.

Institution of Municipal Engineers: Eastern and North-Eastern District Meeting at Lincoln, at 11.45 A.M.

Monday, November 2.

Royal Institute of British Architects: Opening General Meeting, at 8 P.M.

Architectural Association of Ireland: Presidential Address by Mr. H. Allberry, A.R.I.B.A., at 8 P.M.

Tuesday, November 3.

Institution of Civil Engineers: Presidential Address by Mr. B. Hall Blyth, M.A., at 8 P.M.

Wednesday, November 4.

Royal Archæological Institute: Paper entitled "The Arrangements and Fittings of Mediæval Churches in England," by Mr. Aymer Vallance, M.A., F.S.A., at 4.30 P.M.

BRUGES.

At the present moment Bruges is a receiving base for the wounded. It is in the rear of the immediate fighting line, and for the time out of range of shot and shell. But it is on the wrong side of the line, and one fears lest the tide of battle may in its onward sweep towards the Rhine find in the ancient city one of those vantage points for which opposing armies contend, and that taken and retaken, shelled and stormed by both sides, it may become as many another fair city of Belgium, a place of waste and desolation. Let us hope that the tide of war may pass by it without envelopment even as the tide of commerce has receded from the lines it held in the Middle Ages. For Bruges is one of those priceless relics of mediæval life prepared for us by prosperity and preserved by poverty, which once destroyed can never be restored, though it may be rebuilt. We would not even wish that the new port of Zeebrugge might bring back to Bruges some of the prosperity that until the past few months has accrued to Antwerp.

Bruges is essentially a mediæval city; the irregularity of the buildings that line her narrow, sinuous streets, the lofty towers that stand out against the sky, and, from whatever quarter seen, group themselves so happily, recall the Middle Ages, the days when Bruges, the capital of West Flanders, was distinguished both as a centre of commerce and as a meeting-place of scholars, poets, artists, and men renowned for their rank and valour. In the twelfth, thirteenth, and fourteenth centuries the city flourished greatly; the fifteenth century saw her at the height of her fortunes, and witnessed the beginning of her fall. Damme, the ancient port of Bruges, had its origin in the latter half of the twelfth century. During the fifteenth century the channel of the Swyn silted up, and Damme was no longer a port. So the prosperity of Bruges declined, and we have it, as it is to-day, a monument of mediævalism.

True it is that the fifteenth century saw some of the most brilliant displays of the splendour of Bruges. Philip the Good (1419-1467) and his son, Charles the Bold (1467-1477), lavish patrons of the arts, both held their courts within her walls, in the precincts of the palace built by Philip the Good. At their court, the most sumptuous in Europe at the time, were gathered scholars, poets, and artists, and the pageantry of those days has probably never been surpassed. Jean Van Eyck was a member of Duke Philip's household. Bruges in the fifteenth century abounded in palaces, for she was the headquarters of merchant princes throughout Europe, her canals were gay with craft, the Minnewater a dazzling harbour; the city was full of life and colour, and one of the three most beautiful cities of Europe. But the pageantry and display were but veils for the seeds of economic decay, and represented the accumulated wealth of past activities in commerce.

It is worth remembering that William Caxton lived in Bruges for about thirty years, respected as an English merchant—for some time holding the office of "Governor of the English Nation." In Bruges it was that he acquired the art of printing, introduced into the city by Jean Britto in 1446, and here about the year 1474 Caxton printed his first book, "The Recuyell of the Histories of Troye."

The mediæval character of Bruges is in nothing more surely expressed than in the irregularity of the lines of her streets and their apparently inconsequent conjunction with the open spaces. But the charm of Bruges lies even more in the number of her canals. These we cannot easily regard as mere relics of mediævalism, though even from this point of view they are interesting as evidence of the most profitable means of transport in the days when railways and motor vehicles were not.

From the architectural point of view Bruges is not only delightful for its wealth of picturesque grouping, but of high interest as an exemplification of brick building, and inasmuch as in the height of its prosperity it was a city of narrow streets and densely packed houses, it follows that, except in the case of the great merchant princes, whose palaces have for the most part disappeared, the city dweller had to be content with a comparatively narrow plot of ground, which, in spite of the fact that it may have been of considerable depth, presented to the street a front averaging no more than some twenty to thirty feet in width. And as the adjoining plots were apparently for the most part in different ownership, the prevailing characteristic of the domestic architecture of Bruges is the question of the form, treatment, and details of the narrow and flat façade of the city house flush with the roadway.

This, then, was the problem of the architect and craftsman in mediæval Bruges, the narrow flat façade in brick. A vital point in town architecture, the line of the ridge, whether parallel or at right angles to the street line, obtained no universal predominance in Bruges, as it did in some Continental towns, and thus we have both the gabled front and the eaves-and-dormer crowned front, with perhaps the most characteristic treatments in the former category.

The brickwork in Bruges is many hued, ranging from

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ENGLISH COTTAGES.—AT STEYNING, SUSSEX.

a deep rich red, which time has softened and mellowed, to the lighter tints of the more modern façades, which serve to set off the intenser qualities of the original walls. With bricks thin and smaller in size, laid with wide joints, the Bruges builders were not afraid of a plain piece of walling, but the large proportion of the area of most façades that was necessarily given up to windows in these town houses, reduced to small dimensions the area of plain wall. Hence there was little temptation to indulge in diapering, and recessing and frequent change of plane, based upon and emphasising the window disposition, gave the play of light and shade that was needed. Mouldings of simple profiles, as suited the colour and character of the material, were freely used, and traceries in abundance, particularly as enrichment to the tympana of arches over openings bounded by a straight horizontal soffite.

The centre of an ardent civic spirit, it would be remarkable if Bruges did not claim our attention for its public buildings. The famous Beffroi—may it be spared from the fate of a target—the Hotel de Ville, the Ancien Greffe Civil, the Palais du Franc, the religious houses, the city gates, all have their charm architecturally and historically.

The churches of Bruges, although they have suffered much from the onslaught of fire, pillage, and the scourge of iconoclasm, are in good preservation; they have been carefully—although by no means in every case successfully—restored. In these buildings we see the dignity nay, even majesty, which may be attained by simple, forceful, masterly handling of brick, although it is not as a city of churches that Bruges signals itself in the memory.

As a guide to the beauties and the charm of Bruges we can heartily recommend the handy volume * on the city, by Mrs. Arthur Stratton, recently issued by B. T. Batsford, Ltd. The history and the topography are well handled in pleasantly informative fashion without undue prolixity, though thoroughly, by Mrs. Stratton, and a chapter on the façades of Bruges by Mr. Arthur Stratton deals more precisely with the architectural technique of the famous Flemish city. The book is profusely illustrated from drawings by Mr. Charles Wade, whose peculiar personal technique in pen and ink drawings is admirably adapted for book illustrations, though for the most part deficient in atmosphere and hardly fully suggestive of the special charm of Bruges, a charm which, admittedly, it is not easy to translate into black and white.

* *Bruges.* **A record and an impression by Mary Stratton. Illustrated by Charles Wade. (London: B. T. Batsford, Ltd. 5s. net.)**

NOTES AND COMMENTS.

We quite agree with the reasonableness of the complaint made by London builders of new and harsh methods which have been introduced by the London County Council into building contracts by reason of the following endorsement attached to the "Instructions for tender": "The tenderer is requested to note that the London County Council requires that tenders submitted for this work shall be made strictly on the basis of the form of contract annexed to the form of tender for a definite sum without any added conditions as to increase of prices for materials, labour, damage to property by the King's enemies, or other matters arising on account of the war."

The war risk on any given building contract is inestimable by any ordinary builder or architect. We do not, on the present occasion, know enough about the war, the possibilities of invasion, the chance of oversea supplies being intercepted, the probability of rises in price of materials, to enable any of us to estimate accurately the extent to which any one building enterprise may be affected in cost by the war. Hence tendering under the new London County Council conditions is for the majority of contractors sheer gambling. We can understand that the L.C.C. wish to protect the public pocket from unforeseen expenditure. Surely the proper course is for them to arrange with Lloyds for the underwriting of the war risk on all their building contracts during the continuance of the war. Lloyds' underwriters can estimate a risk more closely than any builder, and when they make a mistake in one direction over one deal can set it against that in another on the opposite side.

It may be taken for granted that the fact of the arms of the City of London being differently drawn in some

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ENGLISH COTTAGES.—AT EAST BERGHOLT, SUFFOLK.

details on a recently discovered seventeenth-century manuscript from those usually now emblazoned is one of trivial importance. In the days when heraldry was of vital interest, there was plenty of scope allowed for the personal equation of the artist who drew, painted, embroidered, or carved armorial insignia, and the number of twists in the tail of the griffin is absolutely immaterial. In olden days, even in the seventeenth century, a man did not always spell his name with the same arrangement of letters. As long as it was phonetically somewhat near what he called himself the actual spelling was immaterial. So with coat armour. As long as the tinctures and charges were correct, the form mattered little.

We should be glad to see, as may probably eventuate, the substitution of an arts and crafts display in lieu of the usual exhibition of old masters by the Royal Academy. We want now the reality of art, not the artificiality of dilettante or worse commercial interest in rarities.

South Australia is wisely engaged in conserving its existing timber resources and in arranging for reafforestation. In a recent lecture Professor Chapman pointed out that there were altogether thirteen different South Australian-grown eucalypts, and some of them when planed and polished were exceedingly handsome. The sugar gum (*Eucalyptus corynocalyx*) was one of the best known timbers for strength. In fact, the Australian timbers generally were by a long way the finest for engineering purposes in the world. No other timber stood so successfully the drastic test to which the railroad sleepers were submitted. Another handsome timber was the manna gum (*Eucalyptus viminalis*), but it was not nearly so strong as the sugar gum. So far as the physical properties were concerned, the best results were obtained from the pink gum, which grew over a fairly large extent of country, but was a slow-growing tree. It was easily the State's best timber. It was wonderfully uniform, dense, and strong, and had an elasticity strong as ash. The heaviest of the native timbers were the pink gum, the sugar gum, and the peppermint gum, while the lightest was the red gum (*Eucalyptus rostrata*), which weighed, when seasoned, only 51 lb. to the cubic foot. Sugar gums and stringy bark (*Eucalyptus obliqua*) made good beams. A comparison of the strength of the latter with that of the English oak proved the ratio to be 14 to 11, a considerable advantage in favour of the local timber. In one test of pressure across the grain, a specimen of Murray box, 8 inches by 2½ inches by 3 inches, had easily stood a pressure of 100,000 lb., which was a wonderful demonstration of its strength.

A truly beautiful legal question has at length been laid to rest by the decision of the House of Lords on an appeal by the Commissioners of Inland Revenue against the Southend-on-Sea Estates Company.

The question raised by this appeal by the Crown from an order of the Court of Appeal, which reversed a judgment of Mr. Justice Scrutton, was whether a lease of agricultural land valued at over £50 an acre, containing a power enabling the landlords to resume possession from time to time of any portions they might require for building or other purposes, rendered the land liable to undeveloped land duty under Section 17 (5) of the Finance (1909-10) Act, 1910. The respondents were the owners of agricultural land at Southchurch, Essex, situated two miles from Southend-on-Sea, and they granted a lease of two farms, comprising 514 acres, to W. Benfall for seven years from September 29, 1904. The lease contained a proviso giving power to the lessors to enter and assume possession of any part coloured blue on the plan on giving one month's notice and allowing an abatement from the rent of £2 per acre for every acre as to which the power was exercised. It was admitted that the owners had no desire or intention of enforcing this proviso at present.

The case for the Crown having been argued by the Attorney-General and the Solicitor-General, without hearing Mr. J. A. Hawke, K.C., and Mr. W. Allen for the respondents, their Lordships dismissed the appeal with costs.

Lord Loreburn said that in his opinion the decision of the Court of Appeal was perfectly sound. Undeveloped

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land duty was not payable on land which was under lease made before the Finance Act, 1910, but there was a proviso that the exemption was not to arise where the landlord had power to determine the tenancy. Here the lease enabled the landlord to resume possession for building or other purpose—which meant, in his opinion, purpose of the same kind. It was admitted that the landlord had no such purposes. Had the landlord, in those circumstances, power to determine the tenancy? His Lordship thought he had not. This power only arose when there was such a purpose. If, in an action between him and the tenant, the landlord had said, "I wish very much to determine, but I have no purpose within the covenant," he would have been restrained from determining the lease. In fact, he had not the power to determine. He (Lord Loreburn) did not think it was possible to determine the tenancy unless circumstances existed which would enable the landlord to support his determination in a court of law.

The other Lords concurred. Lord Parker said there must be a *bona-fide* intention by the landowner to use the land for a certain definite purpose. It was admitted there was no such intention, and, therefore, though there might be a power, there was no power immediately exercisable.

By the death of Professor Luigi Adriano Milani, director of the Museo Archeologico, in Florence, Italy loses one of those able and enthusiastic archæological scholars to whom the present day owes so much for its knowledge of the country's past. A native of Verona, where he was born on January 25, 1854, his academic career from youth upwards began and ended in Florence, of which he became one of the most distinguished and esteemed citizens, known as an investigator of rare accomplishment and ability in his special field. Attractive to the whole outlying world of culture, particularly for its art treasures and its noble record in literature and science, Florence became yet more so by the light he threw on its pre-historic record, a period which he may almost be said to have made his own by the fecundity and the interest of his discoveries. From the school of classical archæology, a field soon exhausted in Florence, which, only a thriving *municipium* under the Dictator Sulla, and really dating its historic significance from 1215, the year in which Machiavelli begins his *Storie*, Milani passed to the pre-Roman period, and from year to year so enriched its treasure-trove that a museum had, on his official initiative, to be founded for the accommodation, classifying, and exposition of the "finds." Of this museum he was appointed director, and with admirable skill converted its various salons into so many schools of observation and instruction for the votary of pre-historic research. No greater treat, even for the amateur in that field, could Florence afford than a forenoon or afternoon spent in these salons under Milani's guidance, as fascinating as it was illuminating, and appropriately concluding in the model "campo santo," laid out in the rear of the museum. It was as if the visitor had been assisting at a march-past of the old Etruscan life from the cradle to the grave, conveying to him many a lesson on the features of a "civilisation" which, in the sphere of fine art, as of domestic economy and ornamentation, had little to learn from the day now passing. Anterior, even to the Etruscan, was the pre-Hellenic period on which Milani was continuing to throw ever fresh light in the adjuncts to the museum, when the malady (nephritis due to arterio-sclerosis) began to sap his energies, and, after excluding him for many weeks from his chosen work, carried him off in his sixty-first year.

Plans for extensive additions to the buildings at King's College, Aberdeen, were under consideration of the Plans Committee of the Town Council of Aberdeen last week. These include the extension of the library and the erection of an examination hall. The estimated cost is £20,000.

WAR ITEMS.

In connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received at the Commercial Intelligence Branch of the Board of Trade:—

Japan.—H.M. Commercial Attaché reports under date September 7, in regard to the export trade of Japan, that prices of raw silk, the most important item, have fluctuated according to the immediate requirements of shippers whenever a steamer has started for America, but the general tendency is downwards. Cotton spinners are not very seriously affected, having in most cases sold forward at good prices; but cotton exporters are in a very unfavourable position, as the price of cotton yarn dropped by about 20 per cent., and in the average monthly exports have fallen off from 45,000 bales to less than 20,000 bales. The exports of copper are practically at a standstill, while the export of tea to North America, which was proceeding fairly satisfactorily, has been interrupted by serious storms and floods in the district of Shizuoka. Minor exports, such as hats, braids, carpets, &c., are being dealt in to some extent, and certain articles, such as cheap glassware, latex cups for the rubber industry, &c., are being shipped to the Straits Settlements to take the place of German goods; provisions also are being sent in large quantities to Siberia.

It may therefore be said that on the whole the export trade, though considerably diminished, is being carried on with some vigour.

Russia.—H.M. Consul-General at Moscow has forwarded a report received from a reliable source in regard to the machinery import trade of Russia, which contains a list of various classes of machinery which have hitherto been imported from various Continental countries, but which it is considered might now be replaced by British manufactures. It is stated that about fifteen years ago German machinery makers sent to Russia representatives, who noted what had been supplied by English firms, copied some of the advantages, and proceeded to remedy defects which were pointed out by users, with the result that in a short time machinery was delivered from Germany which met users' requirements, and was delivered at Moscow at lower prices than English machines. All classes of machinery entering Russia have to pay duty by weight, and whilst English makers, with few exceptions, have practically ignored the role that weight plays when duty is imposed upon it, the Germans have attached importance to it. In many machines there are heavy rough cast-iron and other parts which could be made in Russia at a price which would considerably reduce the total cost of the machine to the purchaser delivered at his mill or works. This is a phase in the machinery trade worthy of consideration by English producers of heavy rough machinery who are desirous of entering the Russian market.

With the development of municipal institutions in Russia it is asserted that there is a great field for contractors capable of installing water works, gas works, electric light and tramway plant, &c., but recently German firms have invariably obtained such contracts. One of the causes contributing to their success in this direction has been the ready way in which the German business houses have met purchasers in regard to terms of payment, &c.; this has been possible owing to the fact that the interests of various German makers have been so interwoven that they could obtain financial support where an isolated English supplier would fail. Moreover, whenever a big scheme has been under consideration, the German combines have had their representatives continually in touch with those who have had the placing of the orders, and by constantly assisting them free of charge to draw up specifications, these representatives have succeeded in getting specified just those classes, designs,

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models and sizes which could only be obtained from German firms.

British machinery manufacturers who wish to obtain a share of the Russian orders hitherto placed in Germany are urged to commence the necessary propaganda at once, and not to wait until the war has terminated. They should prepare their circulars in the Russian language, and cause them to be distributed to likely customers through reliable agents. The distribution of circulars in a haphazard way will do little good; they should be sent out by firms or individuals on the spot who know exactly who are the users of the machines described.

The report in question may be inspected by United Kingdom machinery manufacturers at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

The following statement from the pamphlet on "Carbons for Electric Lighting," issued by the Commercial Intelligence Branch of the Board of Trade, shows, for a recent year, the value of carbons for electric lighting exported from Germany, Austria-Hungary, and the United Kingdom to all destinations:—

Exported from Germany (1912):—

Carbon sticks for electrical arc lamps	£451,400
Electrode carbons, carbon threads for electrical illuminating appliances, carborundum articles other than grinding, polishing and whet stones; and other articles of plastic carbon or gas carbon (retort graphite)	90,200
Total	£541,600

Exported from Austria-Hungary (1913):—

Carbons for lighting purposes, less than 1 kilog. per metre, &c.	£48,175

Exported from the United Kingdom (1913):—

Electrical carbons	£10,064

The principal Colonial and neutral markets to which these goods were sent were as stated below.

The figures for Germany include the value of carbons exported to the United Kingdom (£90,650), and to Austria-Hungary (£45,400), and those for Austria-Hungary include exports to Germany (£21,500), and to the United Kingdom (£9,200). British exports of carbons to Germany and Austria-Hungary are negligible.

Deducting these amounts, it appears that the exports of the three countries to all other markets were as follows:—

From Germany	£405,550
From Austria-Hungary	17,475
From United Kingdom	10,000

Practically the whole of this trade has hitherto been done by Germany, though Austria-Hungary has supplied small quantities to Italy, Roumania, Belgium, and France.

In view of the large quantities of coal annually carbonised in the United Kingdom at gasworks and coke ovens, there would seem to be a distinct possibility of diverting a large portion of this trade to the United Kingdom.

The maximum amount of the export trade in carbons for electric lighting which, under present circumstances, might be diverted to British manufacturers from their German and Austrian rivals, may be summed up as follows:—

(a) *In the United Kingdom market*:—

German trade (1912)	£90,650
Austro-Hungarian trade (1913)	9,200
Total	£99,850

(b) *In Colonial and neutral markets*:—

German trade (1912)	£405,550
Austro-Hungarian trade (1913)	17,475
Total	£423,025

Making a grand total of £522,875.

COMPETITION NEWS.

Gateshead.—The Education Committee have selected the plans of Mr. F. W. Purser, of Gateshead, out of the nineteen competitive plans for the proposed school in King Edward Street.

ILLUSTRATIONS.

NEW TOWN HALL, BOROUGH OF ST. MARYLEBONE. APLEY GRANGE, HARROGATE, YORKS.

These two drawings were exhibited in this year's Academy and the buildings are both in the course of erection. The tower of the Marylebone Town Hall, we understand, has been considerably re-designed according to a model prepared, and promises to be very successful. Mr. Edwin Cooper, F.R.I.B.A., is the architect.

THE CITY OF ANTWERP.

The general panorama of the city of Antwerp, looking eastward from across the river Scheldt, would seem to be an English version, in the year 1800 or thereabouts, of a plate in "Les Délices du Brabant" by Philippe de Cantillon. This volume was published at Amsterdam in 1757. The view should be of peculiar interest at the present time, conveying as it does a very fair idea of the extent and dignity to which mediæval Antwerp attained upon its enlargement by the Emperor Charles V. in 1543. Thenceforward, according to the late Mr. H. W. Brewer, the city retained the same aspect with but little modification down to the closing years of the eighteenth century. A series of drastic changes, begun then and carried on intermittently during the nineteenth century, have resulted in transforming old Antwerp into a huge modern city, comprising a limited number only of ancient buildings. On the north the church of St. Walburg, and on the south the church and abbey of St. Michael, have utterly disappeared. But other late Gothic churches still standing, in addition to the superb Cathedral of Our Lady, are those respectively of St. Andrew, St. James, and St. Paul. On the extreme right of the town was the Citadel, built by the Duke of Alva in 1568. The Bourse, or Exchange, a late Gothic structure, was taken down after a disastrous fire in 1858.

The mediæval Hôtel de Ville was finally demolished in 1564, the existing building having meanwhile been begun in 1561. It stands at no great distance to north-west of the Cathedral. Still further off, on the Quay, almost due west of the Cathedral, stands the picturesque Steen, part of the old castle which is said to date from the tenth century, but was practically all rebuilt in 1520. Its principal use in modern times is that of a museum of historical antiquities and industrial art.

In addition to the Steen there are shown in the engraving other towers which once served to defend the city along the river frontage, but have now long since been demolished to make way for modern "improvements." Lastly, in the immediate foreground, on the west bank of the Scheldt, is shown the fort of St. Anne, or, as it is more commonly called, "de la Tête de Flandre."

CHANCEL OF ST. MARY'S CHURCH, BEXLEY, KENT.

The chancel illustrated forms part of St. Mary's, the old Parish Church of Bexley, in Kent. There being no damp-course, the walls are very wet, and great care had to be taken to prevent the damp from coming through and injuring the delicate stencil-work. The general colour scheme is one of rich autumn brown, gold being used sparingly. The roof has a deep blue background with gold stars, the only marble used being Tinos green, which harmonises with the surrounding colours. Messrs. Shrigley & Hunt, of Lancaster, were the contractors, while Messrs. G. Jackson & Sons, of London, were responsible for some of the plaster work, all working under the direction of the architect, Mr. P. Estcourt Holland, A.R.I.B.A.

The Nottingham Corporation, by a large majority, on Monday decided to proceed with important works, towards the cost of which the Development Commissioners have promised an advance of £50,000, the ratepayers contributing £100,000. The scheme is to improve the navigation of the River Trent between Nottingham and Newark, and it was urged the effect of the proposal will be to make Nottingham an important inland port.

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THE ARCHITECTURAL ASSOCIATION.

The annual general meeting of the Architectural Association was held at 18 Tufton Street, S.W., on Monday last, the 26th inst. Mr. H. Austen Hall, F.R.I.B.A., acting President, occupied the chair.

A vacancy was announced on the Council owing to the death of Mr. F. Dare Clapham. Mr. H. B. Newbold and Mr. Detmar Blow have been re-instated. The nominations were read of twenty-seven ordinary members and fifteen country members.

Before calling upon Professor Selwyn Image to give his address Mr. Austen Hall said he would like to make a short reference to their President, Mr. Maurice Webb, and those members, numbering over two hundred, who have followed his fine example by enlisting in the new Army. Their action must give the Association great cause for pride and was deeply significant of the meaning and objects of the Association in which proverbially action takes precedence of words. Their reputation was being well maintained by the response of the members to a national appeal of unusual urgency. Many of them had not been able to follow their President owing to other and necessary work as well as family ties and responsibilities, but he hoped all the members who were free to do so would join the Army without delay, and those who were not able to do so would join the A.A. Training Corps. The absence of their President at the annual general meeting needed no further explanation than that just given. But they nevertheless regretted the omission of his address, which they must hope for on a future occasion. It will be, he was sure, doubly welcome for long waiting. He would like to read the following extract from a letter of Mr. Maurice Webb's to a member of the Council: "The A.A. men here (Chatham) are all fit and well and I have to-day heard from the colonel that he has made definite arrangements for grouping us together. He very much appreciates the type of man sent by the A.A. and would like more of them later on. . . . We are all determined to hold the next A.A. dinner in Berlin, and it looks as though we ought to break the record of recent attendances unless our casualties are unusually heavy." Mr. Austen Hall went on to indicate the general policy of the A.A. during this session. They wanted to carry on their work, especially educational work, as efficiently as possible. The feeling of confidence which they should possess in the ultimate issues of this war must be reflected in the ordinary fulfilment of their duties. The school was going on as in usual times, although half their students had enlisted. The conversazione will be abandoned this year. The meetings will be reduced in number, and will only be held once a month. Energies would be diverted from the usual channels and concentrated upon matters of national defence. Already their War Service Bureau has enlisted 150 men for the Army. The Training Corps for those not eligible and others unable to enlist numbers 350 men. A Committee has been formed to supply members and their comrades serving in the Army with such comforts and extra things that they may need most; all gifts for this purpose will be gratefully received by Mrs. Webb and forwarded. The Association was also co-operating with the R.I.B.A. in preparing to meet distress that may arise among members of their own and kindred professions. They were registering those wanting employment and finding it for them, and their Insurance Committee was putting its organisation at the disposal of the War Committee who will be able to alleviate distress which may arise. Such were their principal activities for the winter months, and in them they believed they could best serve the country and the interests of the profession.

Professor Selwyn Image then read a paper upon

Art and the War.

In his opening sentences he claimed the indulgence of the audience if in what he had to say there was about Art directly very little, about the meaning of the war a great deal. But throughout these three months past what thoughts, he asked, have any of us had but for one thing? Those few closing days of July, those four strained opening days of August: and then, at midnight of that fateful Wednesday, the 5th, we knew at last the worst. War was upon us! The worst, one says. Yes, in a sense. But by and by perhaps we shall not say the worst. War came upon us as a bolt out of the blue. And what a war!

Yet when in God's good time the world is come once more sanely at peace, it will not be by physical scale—the scale of its armies, the scale of the territories involved in it, the scale even of the devastation and horrors—that this war will be seen most significantly to be characterised. We are in the midst of a war literally and simply of ideals, of quite fundamental principles—bed-rock principles, as the phrase goes as to what human civilisation means. Moreover, it is in respect of these a war to the finish, to the death. There must be no half-measures this time, no inconclusive results and patched-up peace, whatever exhaustion it involves.

In a quite vital sense we are again at war to preserve our own national independence. Of this Germany has made no secret. But we are fighting for something more than this, and something even more vital. In those fateful days of August we quietly made up our minds that we had to fight Germany not only because we were pledged to preserve Belgium from attack, or that France and Russia were our friends, or that the scales were beginning to fall from our eyes, and we were realising Germany had her eye on us for by-and-by. For all these things certainly Germany had to be fought. But not for these alone. There was a higher and sterner call upon us to fight than even these, and we realised it on the instant. All the subsequent events and revelations of the war have justified that almost miraculous intuition. And especially has it been justified by the consequent intimate study of the modern German mind and character—that modern mind and character debauched and disgraced by the inhuman and insolent Prussian mind and character, to which, so strangely, thoroughly, and (as in the event it will prove) disastrously to them, these Germans at large have unworthily submitted themselves.

The essence of Prussianism is an insatiate craving for material dominance over your fellow-men, and an unrestrained acceptance of the doctrine that towards grasping this dominance might is right. Such a doctrine leads naturally and inevitably into unscrupulousness, terrorism, lying, cruelty, treachery—every dishonourable species of conceivable meanness. In the continuous history of Prussianism since, in the seventeenth century, the Hohenzollern dynasty first came prominently to a head, we can read this writ plain. The base cynical violation of Germany's pledged word to Belgium in this present war is exactly paralleled by the base cynical violation of Frederick the Great's pledged word to Maria Theresa in the middle of the eighteenth century, when he invaded Silesia. In its insensate and vulgar lust of power there is no blackguardism to which Prussianism will not, in order to secure its purpose, allow itself to descend. Of recent years, in addition, the half-philosophic, half-scientific teaching of Frederick Nietsche has poisoned the wells of German thought. Whether Nietsche himself would have held that the Prussian idea of culture and civilisation, and the Prussian means of making them prevail, were right or wrong may be a question. But there is no question that it is largely owing to him that these Prussian ideas and means have found suitable soil to prosper in, and have produced the monstrous abortion now facing us.

This war is a war of ideals, a war over irreconcilable principles as to what human civilisation means. The truth is we are at fight not against Flesh and Blood, but against Principalities and Powers. We are at fight not to acquire territory and power, not even merely to defend our own territory and power, and the territory and power of our Allies. We are at fight to prevent the lowest and most inhuman conception of civilisation gaining dominance to corrupt mankind. With whatever limitations present or to come of human weakness, we are at fight to assert our belief in Righteousness and Human Brotherhood; and our consequent belief that the idea of the supremacy of material Might, with its inevitable insidious accompaniment of fraud and cruelty, as a basis of civilisation, is an idea foul and damnable, an idea that must be utterly discredited and swept once and for all out of the consideration of even the most uncultured mind.

During the past terrible months no atrocities have shocked the world more than the ruin wrought at Louvain, at Malines, at Rheims; while at various places threatened by the German invaders it was notable how, in spite of all the immediate anxiety and horror at their doors, one of the inhabitants' first cares was to remove their artistic treasures, as far as possible, into safety. Beyond all doubt this war has already played sad havoc with priceless treasures of art. In another sense, and nearer home, for many a day to come, I fear, will it play sad havoc. The lives of many amongst us whose business it is in some form or another to produce art will assuredly in days immediately

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ahead be straitened enough, and too often something much more than straitened.

Yet we have to remind ourselves that the effect of war upon art has never been wholly bad. Nay, it has on occasion been quite the reverse of bad. Some of the finest art the world has even seen has been wrought amid days and surroundings very far from peaceful. Much of the great art of Greece was thus wrought, and of Italy, and of the Gothic builders. Or, again, to turn to a single artist's experience, some of that incomparable statuary in the sacristy of St. Lorenzo was worked at by Michael Angelo while he was actually engaged himself as commander in defending Florence from the invasion of the infamous Alessandro. There is some force in the paradox that War and Art are not always enemies, and that Peace is not always Art's best friend.

For Art has her dangers—dangers coming to her from men's frivolity, their absorption in sumptuousness and luxury, their over-attention to trivialities and mere curiosities, their morbid excitement after titillating novelties, their resultant shallowness of judgment and sane appreciation. Dangers from these things and the like of them assail Art and are fatal to her fineness. Dangers such as these, experience only too clearly tells us, are not seldom the fruits of some long spell of easy peace. Perhaps it was only such a war as the present, a war for the sake of fundamental ideals, that could give them, for art and conduct generally, a salutary shock.

Discussion.

Mr. W. Curtis Green (Past-President), before formally proposing a vote of thanks to Professor Selwyn Image, added a few words about how the Architectural Association had risen to the occasion. They were heartily grateful to Mr. Maurice Webb for the example he had set in enlisting in Lord Kitchener's Army. He had shown many men, who were only too ready to be shown, where their duty lay. The response to the Colours had been first rate. All who were unable to enlist, however obvious their defects might be, and however real the difficulties keeping them comfortably at home, were only too conscious of their insignificance compared with those others. They had been moved to the quick with admiration for the Regular Forces. He knew their brother architects would be a source of strength to the regiments in which they had enlisted, and he looked forward to welcoming them all back again and seeing Mr. Webb President for another year. With regard to the lecture just delivered, the committee had felt sure when they requested Professor Image to fill the gap caused by Mr. Webb's absence that he would turn their thoughts into those channels which cleansed and purified adversity. All believed this time of trial would ultimately lead to the advancement and the good of architecture.

Sir Aston Webb, R.A., in thanking Professor Selwyn Image for his eloquent paper, pointed out that the Professor had an excellent prototype in Mr. Ruskin, who did the Architectural Association the honour of delivering before it one of his finest addresses—namely, "The Two Paths"—a plea for imagination. He (the speaker) had to confess to having looked forward to this meeting being held under different circumstances. He believed he enjoyed the honour of being the first, at any rate living, President of the Association to have a son who was also President. It was just thirty years ago since he himself acted in that capacity. Naturally he had been looking forward to hearing his son's address on the occasion of this annual general meeting. But he felt that his son had done his duty in going away. They had become enormously interested in their work in the Royal Engineers—a corps into which architects could rightly enter because there was a certain amount of affinity between the two. Perhaps later on they might be able to hear his son's Presidential Address—it would be sure to be breezy. Reverting to this subject of the paper, he might say that Art and War possessed a very great affinity. It had often been pointed out that art most flourished while people were battering one another. Readers of the Life of Isobel d'Este, Duchess of Mantua, would remember how during her time Italy was constantly in a state of war, and yet Isobel was collecting works of art and paintings by Mantegna, Titian and other masters. The examples of Mantegna now in Hampton Court were produced during a time of the greatest peril. Another instance was that during the Revolution in France a commission of artists prepared a plan for beautifying Paris. When Napoleon III. started the work of improving the capital, this plan was looked up and a great number of the suggestions were incorporated into Baron Haussmann's scheme. Those who during this present war had to remain at home might consider whether they could not employ their minds on such like schemes. In some cases, at any rate, even this war had shown what a protection art afforded to buildings and cities. What fate, he wondered, would have befallen Antwerp but for the existence of its beautiful cathedral tower. In the past the art of architecture had often saved cities by the beauty of the buildings. It had even influenced the brutes and blackguards who were now making such havoc across the water. War had always improved the art of architecture. They might therefore hope the present trials and troubles would produce a finer art. As gold was tried by fire, so their art must be tried by pain.

Mr. G. H. Fellowes Prynne said that no one who had heard the paper would fail to realise that in Professor Selwyn Image they had not only an artist, but also a real thinker. In him they likewise had a poet who brought out the soul of things. The paper had brought before their minds the fact that war, though in itself terrible and awful, is not altogether an unmitigated evil. Before this war started we of this country seemed to be becoming disintegrated among ourselves and getting "flabby." The crisis appears to have bucked us up, for we see thousands of men rushing to the Colours. Some, like himself, only wished there was a Veterans' Corps. Professor Image's paper should arouse an enthusiasm and a depth of feeling which was still needed. It was a splendid thing for the President to have come forward at once and set such an example. In that connection they must not forget Mrs. Webb. The more they could show their practical sympathy by sending comforts for distribution, the more helpful it would be to her.

Mr. W. A. Pite thought the solemn and eloquent address would be forgotten by no one who had heard it. Some day it would rank equally in value with the paper which Ruskin, his predecessor in the Slade Chair at Oxford, read in 1866—also a time of war—at Woolwich Academy upon war. The latter memorable lecture would live for all time. That evening Professor Image had brought them down to the bed-rock. He had searched them through and through, and had brought them to see how they must look forward with hope that under this deep trial through which the nation was passing God has some wise purpose. It was wonderful how all manner of people holding the most diverse views have been brought into national unity. Ruskin, who was pre-eminently a man of peace, was led to see that all the best art of the world had been brought into being by war. That truth was exemplified in ancient Egypt, Greece, and Rome; later by the Goths, Vandals, and Huns. We can all see what chivalry has done. The art of architecture particularly flourished under war.

Mr. H. Austen Hall added a few words before putting the vote of thanks.

Professor Image then acknowledged the vote, and the meeting terminated.

The next meeting will be held on November 23 at 8 P.M. Particulars as to the paper will be announced later. The Council's report and balance-sheet for session 1913-1914 will be put forward for adoption.

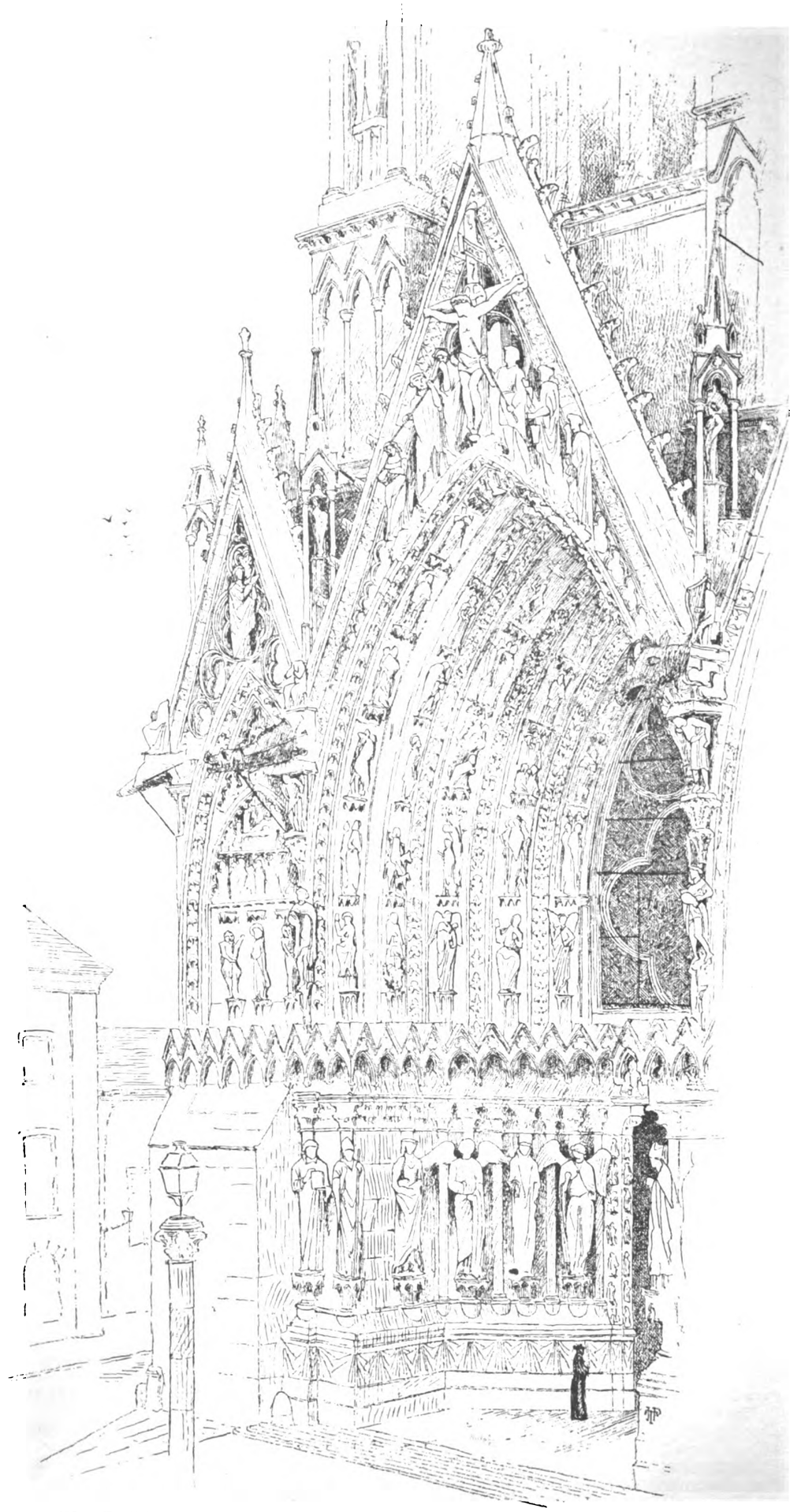
REIMS.

By J. Tavenor Perry.

The history of Reims has been so often written, and all architects are so well acquainted with the details of its celebrated buildings, that it may be said with reason that everything there is to know is already known, and what is not known may be regarded as undiscoverable; but the devastation recently wrought by Prussian guns and German brutality make some slight recapitulation of the early events in its foundation and growth desirable before dealing with those features which were of the highest value and have suffered most from the barbarian onslaught. It is too early yet to calculate the sum of the damage done, since, even as we write, not infrequent bombs are falling on the city; but enough is known to indicate the nature and extent of the mischief, and to be certain of an awful minimum of artistic loss which can never be replaced.

Reims was a Romano-Gallic city of importance, and of the remains of that early epoch the most complete is the so-called Porta-Martis, said to have been erected by Agrippa as a triumphal arch, though probably of a later date, which formed perhaps an entrance to the city, but placed on the further side of the Promœrium from the ancient walls. A

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NORTH-WESTERN PORTAL, REIMS CATHEDRAL.—From a Drawing by Mr. J. Tavenor Perry.

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AMBULATORY OF THE ABBEY CHURCH OF ST. REMI, REIMS.—From a Drawing by Mr. J. Tavenor Perry.

small chapel for Christian worship, surrounded by a cemetery, was erected outside the gates about the year 250, but in 314 Bétause, the fourth bishop, favoured by the Peace of the Church, removed to within the walls; while in 401 St. Nicaise again transferred his seat to a new cathedral by adapting for the purpose an ancient temple then standing in the capitol of Reims, and as the present building occupies the same site it may claim a continuous existence of over fifteen hundred years.

The church built by St. Nicaise endured until the beginning of the ninth century when it fell into ruin, perhaps hastened by the fire which is associated with the history of the famous jewel known as the "Crystal of Lothaire" now preserved in the British Museum. This jewel, made for Lothaire II., had passed into the possession of Heresindes, wife of the Count of Florennes, whose castle stood near Dinant, and who had pledged the crystal to a Canon of Reims, of whom he was buying a horse, and, being unable

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to obtain its return when he offered the agreed price for its redemption, recovered it by force from the fraudulent priest, but during the process, unfortunately, burned his church over his head. The cathedral which took its place, commenced in 816 and completed in 856, is celebrated for the richness of its decoration in gilding, painting, and glass, for its bells and its rich furniture; but the whole was completely destroyed by fire on May 6, 1211.

The building of the present cathedral was immediately begun on the ruins of the last, and one great fact which we do not know about it is the name of its architect. Its design has been ascribed to three well-known men, Villard de Honnecourt, Hugues Libergiers, and Robert de Courcy; and Viollet-le-Duc, in his "Dictionnaire," seems at first to attribute portions of the design to de Honnecourt, but later, in his account of the cathedral, ascribes it wholly to de Courcy, oblivious to the fact that his tombstone says distinctly that he died in 1311—a hundred years after the rebuilding had been begun—and does not refer to a father or any other predecessor of the same name. As the tomb of Libergiers, the architect of St. Nicaise, makes no mention of the cathedral he evidently did not design it, and we have to come to the conclusion that the name of the architect of Reims Cathedral can only be looked for on the roll of the unknown worthies.

The plan and general arrangement of Reims are familiar to every architect, and every text-book refers to it as a complete example of French Gothic; the perfect proportion and symmetry of its parts, the beauty of all its details, the apparent lightness but actual solidity of its construction—a solidity sufficient to withstand Krupp guns—are only a few of its many excellences, but we will confine ourselves to a notice of those features which we know to have been damaged or destroyed—the glass, the bells, and the world-famous sculpture.

The glass seems to have suffered severely; much of it appears to be riddled as with shrapnel and past any hope of restoration. This includes most of the triforium windows, particularly those to the north, which were filled with glass dating from the middle of the thirteenth century of particular richness and harmony, and the great rose of the north transept, which had been damaged by earlier accidents, but was of some historical value as painted by Nicholas Dérodé, an artist of Reims, in 1581. The rose-window of the west front, reported to be blown out, was of the best period of the fourteenth century, and produced a marvellous effect of brilliant colour and the most perfect harmony.

Published photographs show the bells fallen and broken, but whether all have met with this fate seems uncertain; but the great bourdon was one of the historic bells of France, having been founded by P. Deschamps and presented by the Cardinal of Lorraine in 1570 and weighed over 11 tons. A second bourdon of rather less weight was given by Cardinal Gousset in 1849.

But the glory of Reims was in its sculpture, nearly all of which has either perished or been so damaged that only restoration, which might make matters even worse, could preserve even a shred of a reminiscence of it. The floor of the nave had been covered with straw to receive the wounded, and this was set on fire by the shells, with the result that much of the surface of the stonework has been calcined and will have to be removed. The wonderful carving of the capitals of this portion of the building has thus been destroyed, which is the more to be regretted as it embraced the most complete series of naturalesque carving in France, some twenty different species of plants being used, amongst which might be frequently noticed the vine, ivy, laurel, oak, rose, and ranunculus. The north side of the cathedral was most particularly exposed to the enemy's fire, and as a result the celebrated angels standing in the canopied pinnacles of the flying buttresses have suffered severely.

The glorious west front, with its portals, the most perfect and beautiful in France or the world, has been damaged, like the interior, from the direct action of fire rather than shot, a scaffold standing in front of it at the time of the bombardment having been set alight by the shells. This had the result of calcining much of the surface and reducing a large proportion of the figures and foliage, particularly of the north-west portal shown in our sketch, to utter ruin. Destructive German criticism, however, almost as malevolent as German barbarity, had already attempted to disparage this triumph of art, for in 1899 Hasak suggested that the Classic feeling evinced by some of the statues was due to their being seventeenth-century work, "when Classic sculpture had been rediscovered."

We will attempt to give some idea of the iconography of these portals, particularly of the one we illustrate; but must first mention the enclosure of the parvise which protected the west front. This was an open balustrade, well advanced before the flight of steps leading into the church, and level with the general roadway; but it was removed for the coronation of Louis XIV., and the abutment of it remaining against the north buttress of the façade, showing in our sketch, marks its original position.

The three great portals, above the level of the canopies, are devoted each to the illustration of a separate subject, that in the centre being sacred to the Queen of the august temple, the Holy Virgin; the north portal illustrates the terrestrial life of Our Lord, and the south the triumph of the Gospel and the history of the Last Day, while all the colossal figures ranged on either side of the doorways bear some connection to the subjects above.

We will give some detailed description of these portals, beginning with the centre one. On the pier separating the two doorways stands the statue of the Blessed Virgin, and at her feet were statuettes, almost destroyed by time and decay, of Adam and Eve driven from Paradise. Ranging with the statue of the Virgin, on each side of the portal, are the figures of the Annunciation and the Visitation to the right, and the Presentation in the Temple and the Purification to the left, and beyond them the statues of SS. Joseph, Mary, Simeon, and Anne the Prophetess; and it is that of St. Joseph, which stands at the extreme end of the group on the left-hand side, which evinces so much Classic feeling as to have provoked the German critic's sneer. Its similarity, in many respects, to the celebrated Sophocles of the Lateran is indeed very marked, but as this was only discovered at Terracina in 1838, it cannot have suggested any ideas to the supposed seventeenth-century sculptor of Reims. The lintel of the doorway was covered with reliefs showing incidents in the life of the Virgin, but these were destroyed at the Revolution and replaced with an inscription by Robespierre.

The seventy-five figures or groups of figures in the five rings of the great arches of the portal, though they had suffered slightly from unskilful restoration, retained all their original characteristics; among other figures there were, in the innermost ring, right and left, the ancestors of the Virgin holding instruments of music and praising their daughter. In the next ring were Jesse and his genealogical tree, Moses, Aaron, and Gideon. In the third ring, to the right, the ancient prophets, including Jonah, Daniel with the angels, and the Three Children; and on the left the Shepherds and the Magi, St. Christopher and the Apostles. In the fourth ring are, to the right, SS. Helena, Jerome, and Lawrence, and, to the left, St. Louis and St. Roch; while the outside ring, which is the one most damaged by restoration, contains SS. Sebastian, Margaret, Catherine, Agatha, and Alexis. Above all this, and in the gable over the arch, is a group of colossal figures representing the Coronation of the Virgin.

We have not space here to follow the iconography of the south portal in the same detail as the last, though it merits equal attention; but turn to the north portal as shown in our sketch taken before the Government's great restoration began in 1880, to describe its iconography as therein shown, and as it existed in 1867. The great statues on the jambs represent the principal apostles of the Church of Reims. On the left stands St. Nicaise between two angels, the two most celebrated and, perhaps, the most beautiful examples of French mediæval sculpture existing until the other day; and beyond stands St. Remi between his mother, St. Cilinie to his left, and his disciple, St. Thierry, to his right. On the opposite jamb are SS. Jocund, Florent, Eutrope, and other founders. The subjects contained in the voussoirs of the great arches above must be described in a horizontal order, dealing first with the left side and beginning with the small arch above the north buttress. 1 (lowest). Our Lord between two devils tempted in the desert; transported to a pinnacle of the Temple; and, on a high mountain adored by angels. 2. Our Lord and St. Peter entering Jerusalem met by a crowd strewing garments before them. 3. The Last Supper; the washing of feet; and the Garden of Olives. 4. St. Peter cuts off the ear of Malchus; Judas awaiting Our Lord; and His seizure. 5. The Scourging; the Tortures; and the Carrying of the Cross. The voussoirs of the right-hand side of the arch have subjects more difficult to follow, and appear to have suffered from some defective restoration. The apex of the gable which crowns the whole is filled with

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the Crucifixion, composed of a group of colossal figures very beautifully sculptured.

The open pinnacles on each side of this gable contain symbolic statues of the Church and the Synagogue; and at each intersection of the great arches is another interesting group, having below a figure to represent one of the rivers of Paradise, over which is a crouching figure supporting a great grotesque leaden gargoyle, over which another figure is seated with a musical instrument. It should be mentioned that among all this wealth of imagery are interspersed rich carvings in bands, crockets, and capitals of natural foliage, including a very forest of roses in the central portal dedicated to the Virgin.

Such is the beautiful composition which has fallen a victim to German barbarity, but which, so it is boasted, can be easily replaced by German Kultur!

We can but briefly allude to the Abbey Church of St. Remi, standing to the south of the cathedral, the condition of which is uncertain beyond the general statement that it has been destroyed. If not so beautiful in its details it is architecturally of more importance than the cathedral, and the choir and chapels, of which we give a sketch, were being erected at the same time as Notre Dame, Paris. Portions of the nave date back to the tenth century, but the church generally may be taken as an almost perfect example of early French Gothic. The surrounding chapels of the choir are planned, like those of Chalons-sur-Marne, so as to form a complete circle, two isolated columns, standing towards the aisles, taking two of the cross arches of the vaulting.

The two sketches we publish were made in July 1867, that of the cathedral portal from a room in the Lion d'Or, by J. Tavenor Perry during a tour which he made in North-East France with the late Henry Jarvis.

THE SOCIETY OF ARCHITECTS.

A special general meeting of the Society of Architects was held at 28 Bedford Square, W.C., on Thursday, October 22. The President, Mr. Percy B. Tubbs, F.R.I.B.A., was in the chair.

The scrutineers' report on the ballot for the election of officers and Council, 1914-15, was received. The result of the voting was as follows: President, E. C. P. Monson, F.R.I.B.A., F.S.I.; Vice-Presidents, A. Alban H. Scott and Edwin J. Sadgrove, F.R.I.B.A.; Past-Presidents, Albert E. Pridmore, F.S.I., and Percy B. Tubbs, F.R.I.B.A.; Honorary Secretary, George H. Paine; Honorary Treasurer, P. M. Beaumont, A.M.Inst.C.E.; Honorary Librarian, Gilbert A. Harrison; Members of Council, E. J. Partridge, Col. F. S. Leslie, R.E., J. Herbert Pearson, Henry Adams, M.Inst.C.E., F.S.I., R. A. Jack, T. Stewart Inglis, B. D. Cancellor, Herbert W. Matthews, Herbert O. Ellis, Noel D. Sheffield, R. Cecil Davies, Alfred J. Taylor, Thomas Wallis, Charles E. Salmon, Harry Gill, B. R. Tucker, Henry R. Cooper, and F. C. Moscrop-Young.

The Chairman then invested the newly elected President, Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., with the badge of office, making reference to his long service on the Council to the Society, and also to his service to the country as an officer of H.M. Territorial Forces.

The new President, on assuming office, expressed his thanks for the honour conferred upon him, and his sense of the responsibility involved in his acceptance of it, more particularly in view of the example set by his immediate predecessor and other Past-Presidents whom it would be his desire to emulate in promoting the interests of the Society.

Mr. A. H. Salisbury moved a vote of thanks to the outgoing President, Mr. Percy B. Tubbs, who, he thought, deserved well of the Society for the way in which he had piloted it during the two somewhat critical years which had followed the prolonged negotiations with the R.I.B.A. on registration and the proposed fusion of the two bodies. The President had, of course, been loyally supported by the Council and the members, but nevertheless full credit was due to him for his personal share in the success which the Society had achieved in its continued growth in numbers and influence.

Mr. Percy B. Tubbs, in a brief reply, referred to some of the matters in which he had been more particularly interested, such as the establishment by the Society of the Beaux-Arts Committee. His actions in this respect had been at the time severely criticised by some of the professional journals, but they had since amply atoned by the support which they were now giving to the movement.

Mr. G. A. T. Middleton, A.R.I.B.A., Past Vice-President, then gave a lantern lecture on "Some Belgian Towns Affected by the War." He exhibited many slides of his own, supplemented by others lent by Mr. Ellis Marsland and Mr. E. W. Harvey Piper. He also showed a number of views of the damage done by the German bombardment. These slides had been specially made by Mr. George Trotman from photographs made available by the courtesy of the Central News and the *Glasgow Record*.

The room was well filled by members and their friends, amongst whom were a number of Belgians, some of whom had taken an active part in the recent defence of Antwerp. Several Belgian architects were also present, including Mr. Alfred Portieljie, the Secretary of the Royal Society of Architects, of Antwerp.

The lecturer aroused the interest and sympathy of his audience by his method of handling the subject, and contrasting, purely from a professional standpoint, the conditions of prominent buildings in such places as Louvain, Malines, Tournai, and others, before and since their occupation by the enemy. He confined his observations chiefly to Belgium, but later in the evening, at the Chairman's request, showed a number of slides illustrating the damage done to Rheims Cathedral and other buildings in France.

Twenty-three years ago the Society officially visited Belgium—forty-two strong. Mr. Middleton, who was the organiser of the tour, subsequently read a paper on the subject in the subsequent session. Their visit began at Ostend, where an address was presented to the then King of the Belgians (Leopold II.) almost immediately on arrival. In his lecture last week, however, Mr. Middleton dealt with the Belgian towns in the order in which they have been occupied by the Germans. He began with Liège, which he described as a fine commercial city with some important Romanesque churches. Its cathedral resembles very much other prominent Belgian buildings in revealing a striking admixture of national styles. French, German, and English characteristics, not to mention those of countries further afield, are all to be met with in Belgium. The Mont de Piété here, close to the Pont St. Léonard, seemed to Mr. Middleton to have been possibly the prototype of the late Mr. Norman Shaw's "New Scotland Yard." The unique feature of the Palais de Justice was the main courtyard, with its curious arcade. Enthusiastic praise was given to Brussels, the Palais de Justice being called the greatest modern building in Europe—excepting, perhaps, our own Houses of Parliament. The Grande Place, with its Hôtel de Ville, the Guild Houses, and the Maison du Roi, was especially remarked on for its wonderful ensemble. Although Brussels Cathedral shows some German as well as French influence in its exterior, the interior is more English in feeling than any other Belgian church, and was especially solemn when crowded with worshippers. It was to be hoped that Tournai, a not very large town and not well known to the English visitor, would be spared. The west front of its immensely impressive cathedral showed a great deal of North-Italian influence; the doors to the transepts are Moorish, and when taken with certain arches in the nave arcades suggest speculation as to the influence of Moorish architecture on Romanesque. Referring to Louvain, Mr. Middleton said its church of St. Pierre was, in point of size and beauty, a cathedral. It has always been war-scarred, and is believed to have disappeared. The Hôtel de Ville, built of soft stone and constantly requiring restoration, is the only public building which still stands. Malines, on first entry, appears a dull place, until the splendour of the Grande Place, with the cathedral, Cloth Hall, and other buildings is reached. Worthy of the cathedral is the venerable architect in charge, the Rev. Canon Von Caster. But Mr. Middleton gave the palm to Ypres as having the finest Gothic group in the world.

At the conclusion of the lecture a very hearty vote of thanks was accorded to Mr. Middleton.

Mr. William Woodward, F.R.I.B.A., one of the survivors of Mr. Middleton's party to Belgium twenty-five years ago, associated himself with the expression of thanks, and gave some amusing reminiscences of the visit.

The meeting closed with the passing of the following resolution:—

"That the Society of Architects desires to express its profound sympathy with the French and the Belgian Governments on the irreparable loss sustained by those countries, and indeed by the whole world, through the wanton destruction by the common enemy of many works of art and of architecture, such as have been the pride of architects for generations."

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LONDON COUNTY COUNCIL.

The possible strategical importance of buildings within the Metropolitan area, particularly those under alien proprietorship or occupancy, is not being lost sight of by the London County Council, and it is gratifying to know that steps are being taken to at once furnish the military authorities with whatever information in this direction may come into the Council's hands.

Replying to a question by Mr. W. Reynolds at this week's meeting of the Council, Mr. Kingsley Wood, chairman of the Building Act Committee, said his committee had been considering reports concerning certain buildings in London, some of which had been occupied by Germans or Austrians, whilst others had been the subject of recent Building Act applications. Particulars of those which were regarded as occupying strategical positions, or requiring investigation, had been immediately forwarded to the proper authorities. Any similar information, added Mr. Wood, which might be received would be promptly dealt with in like fashion.

UNIVERSITY OF LIVERPOOL SCHOOL OF ARCHITECTURE.

We have pleasure in publishing a list of students of this school serving with commissions:—

Adams, W. Naseby, Captain, 1st West Lancashire Brigade, R.F.A.; Benjamin, L. A., Lieutenant, Royal Garrison Artillery, West Lancashire Brigade; Bell, E. N. F., Lieutenant, Royal Inniskilling Fusiliers; Bogle, J. M. L., Lieutenant, the Lancashire (Fortress) Royal Engineers; Campbell, Duncan, Lieutenant, 10th (Scottish) Battalion, King's Liverpool Regiment; Greenall, J. B., Lieutenant, 9th Battalion, Cheshire Regiment; Joynson, L. C. B., Lieutenant, 6th Battalion, Royal South Staffordshire Regiment; Maddox, H. T. F., Lieutenant, Welsh Fusiliers; Sykes, A. R., Lieutenant and Assistant Adjutant, 14th Battalion, King's Liverpool Regiment; Ravenscroft, Martin, Lieutenant, 3rd West Lancashire Brigade, R.F.A.; Todd, A. J. K., Lieutenant, 2nd Dragoon Guards (Queen's Bays); Weekes, W. Barrett, Lieutenant, Royal Engineers.

The following are serving as privates:—

Adams, L. K., 7th Battalion, King's Liverpool Regiment; Barnish, Leonard, C Company, King's Liverpool Scottish Regiment; Blackford, V., Queen's Own Hussars; Burton, G. B., 6th Battalion, King's Liverpool Regiment; Cole, E. R. F., 3rd City Battalion, King's Liverpool Regiment; Davidson, G., 1st West Lancashire Field Ambulance, R.A.M.C.; Davies, W. E., Artists' Rifles (T., 28th County of London); Dod, H. A., 2nd City Battalion, King's Liverpool Regiment; Evans, A. F. F., 1st City Battalion, King's Liverpool Regiment; Faraday, S., 4th Cheshire (Territorial) Regiment.; Glazebrook, F. H., 5th Battalion, King's Liverpoal Regiment; Giles, H. C., O.T.C., Belfast; Gonner, E. D. L., 10th (Scottish) Battalion, King's Liverpool Regiment; Harrington, C. A., 1st Canadian Grenadier Guards; Harris, P. C., B Section, 3rd City of London Field Ambulance, R.A.M.C.; Hill, G. N., 1st City Battalion, King's Liverpool Regiment; Jenkins, F., 1st West Lancashire Field Ambulance, R.A.M.C.; Mason, H. C., 5th Battalion, East Surrey Regiment; Miller, B. A., 1st West Lancashire Field Ambulance, R.A.M.C.; Pickles, J., 6th West Yorkshire P.W.O. Regiment; Paterson, Claude, Royal Hampshire Regiment; Preston, E. C., D Company, Public Schools Battalion, Middlesex Regiment; Rutledge, Jas. C., 7th Reserve Battery R.F.A., Fulwood Barracks; Williamson, F., R.N.V.R., first-class signaller, H.M.S. *Gibraltar*.

RETHEL.

By John A. Randolph.

"Everything has been destroyed at Rethel."

"The belfry of Arras is in ruins."

Two one-line items, on different pages, in a London evening newspaper of October 9, which the editor possibly thought unworthy of more than such bald statement of facts.

The Arras belfry, very similar to the cathedral tower of Antwerp, was well known, and deserved more than a one-line obituary notice; Rethel, on the contrary, was, to most of us, a mere name on the map, to the north of ill-fated Rheims, but nevertheless it deserves a few more lines, to show what has been lost in the general holocaust.

The town lay on the slopes of a hill, had a Hôtel Dieu and several houses, with overhanging storeys, of the seventeenth century, and a church of unusual interest.

The massive panelled three-storey tower at the corner was erected in 1650, adjacent to a late Gothic elaborate side canopied porch flanked by turreted buttresses, and with a sharply pointed gable, with a traceried window between the canopy and the gable, and rich windows on either side. Against this part of the church was a bold crocketted gable with large window, with niches at each side of it and over it. These two portions belonged to two churches, originally distinct, but latterly joined into one, the older part having been a priory one, and dating from the thirteenth century. The porch has sixteen groups of sculpture, depicting scenes in the life of St. Nicolas, to whom the church was dedicated.

There was a pilgrimage attached to the chapel there of St. Gorgonius, and the church contained a curious holy-water stoup, a Gothic crypt, and Lady chapel.

The town contained a convent of ancient date, whose chapel had been restored in the 'eighties.

The town hall dated from 1750, the old one, of 1690, being turned into a communal school.

In the lower part of the town, between the Préfecture and the road to Sorbon village (two and a half miles away), there were a number of poor houses, some with miscellaneous merchandise in their small windows, which, to our astonishment, were lighted at night—till ten o'clock—by electricity. Inquiry as to how that came about resulted in the imparting of the information that the current was derived from a manufactory on the outskirts of the town, which closed for the night at that hour.

We had returned late from Sorbon the night of our visit, so had to sleep at the Hôtel du Commerce, previous to continuing our journey to ill-fated Rheims next morning, our first and only visit there, twenty-two years ago.

NEW PROCEDURE UNDER THE LONDON BUILDING ACTS.

The London County Council in July last revised the standing orders and orders of references to committees, and decided that the new procedure thus adopted should operate as from October 1, 1914.

Regulations. 1.—Building Acts.

1. *London Building Acts*, 1894 *and* 1898—*Conditions upon which applications may be granted.*—(*a*) In dealing with applications made under the London Building Act, 1894, and the Amending Act of 1898, with reference to the undermentioned matters, the desirableness of imposing conditions to the following effect shall be considered by the Building Acts Committee, but this regulation shall not be interpreted as limiting any power to vary such conditions or to impose such conditions in other matters than those mentioned, or to impose any other conditions in any matter—

(i.) In the matter of the formation or laying out of proposed streets—

(1) That within from the date of this order the proposed street hereby sanctioned shall be clearly defined throughout by posts and rails, or so otherwise as the Council shall permit, and be thrown open as a public highway, free from obstructions except such builders' materials as the Council may, during such period as it thinks fit, permit to be stored upon such street.

(2) That no building shall be commenced to be erected on either side of, or upon a site abutting upon, or approached by or from such proposed street, unless such proposed street shall have been and shall still remain so defined and thrown open as aforesaid, and unless the roadway and footways of such proposed street shall have been so made, and shall be throughout as regards levels, direction, width and gradients so as to comply with the provisions of any statutes and by-laws in force in London regulating streets and buildings, and so as to accord with the said plans and sections, and with the particulars which accompanied the application for the sanction contained in this order, and unless the name of the street shall have been approved by the Council, and as so approved shall have been affixed and shall be retained at both ends of the street.

(3) That if at the expiration of the period specified in condition (1) the said condition (1) has not been complied with, this order and the sanction thereby given shall be null and void.

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(ii.) In the matter of the erection of one-storey shops in advance of the general line of buildings—

(4) That no part of the proposed shop or any structure or erection connected therewith do exceed 16 feet in height above the footway, or such other height as may be fixed by the Council.

(iii.) In the matter of temporary buildings or structures dealt with under Part VII.—

(5) That the building or structure be commenced and completed within such periods as may be deemed expedient.

(6) That if the building or structure be commenced or completed contrary to condition (5), or be found at any time to have been so erected, set up, altered or adapted as not to be in all respects in accordance with the application for the approval or licence, and with the plans and particulars relating to such application, or (when approved or licensed for a special purpose) to have been used for any purpose other than a purpose named in the approval or licence, or to have had any unauthorised addition made thereto, or any word, advertisement or device made or retained thereon, such building or structure shall, within seven days after service on any owner or occupier thereof for the time being of a notice from the Council requiring its removal, be entirely removed.

(iv.) In any matter in which land is to be given up—

(7) That before the building is erected or within such period as may be named in the sanction, consent, licence or approval, the land coloured blue on the deposited plan shall be thrown into the public way and dedicated to and left open for the use of the public, and that no pier, pilaster or other projection be placed on such land.

(8) That no vault, arch, cellar, opening flap, or other construction shall be made in or under the said land coloured blue on the said plan without the previous consent in writing of the local authority.

(v.) And in all matters other than the formation and laying out of proposed streets—

(9) That the buildings, structure, or work shall be set up, erected, or carried out, as the case may be, and retained without any addition thereto and in exact accordance with the application for the sanction, consent, licence, or approval, and with the plans and particulars which accompanied such application.

(*b*) No sanction, consent, licence, or approval shall be issued until the conditions imposed by the Council in granting the same have been, if the Council so require, accepted in writing by such persons as the Council shall consider the proper parties to comply with such conditions.

(*c*) Every written acceptance of conditions shall have a sixpenny stamp affixed thereto.

2. *New Streets for Foot Traffic Only.*—Whenever plans of new streets to be laid out for foot traffic only are sanctioned a condition shall be attached binding the applicant to pave the street over the entire surface, and by posts, bars, or otherwise, to prevent such street from being used for carriage traffic.

3. *Keeping of Register of Orders.*—The register of orders relating to dangerous or neglected structures under Section 116 (3) of the London Building Act, 1894, shall be kept by the comptroller.

4. *Part III. of the London County Council (General Powers) Act, 1908—Additional Cubical Extent.*—No application for consent to the provision of additional cubical extent shall be entertained in respect of a building which is or is to be in more than one occupation.

5. *Uniting of Buildings.*—Applications for consent to the uniting of buildings of the warehouse class with buildings of the same class or with any other buildings, either or both being in different occupations, shall not be entertained when the combined cubical extent of the buildings to be united exceeds 250,000 cubic feet.

6. *Appointment of District Surveyors—Conditions Governing Candidature.*—(*a*) No person shall be accepted as a candidate for the appointment of district surveyor unless he shall have attained 28 years of age and be under 50 years of age, and every such candidate shall deliver with his application satisfactory evidence of his age.

(*b*) *Conditions of Appointment.*—Every candidate shall be required to sign a declaration and deliver it with his application, that he becomes a candidate, and will accept the appointment, if he should be appointed, on the following understanding:—

(i.) That he will personally discharge the duties of his office subject to Section 142 of the London Building Act, 1894.

(ii.) That he will give his whole time to the duties of his office.

(iii.) That he will not during his continuance in office (except in the discharge of the duties thereof) carry on business as an architect, surveyor, or builder, or directly or indirectly, as a partner or otherwise, be interested in such business.

(iv.) That he will make no claim for compensation in case a diminution of his income shall at any time hereafter arise, and that the Council shall not be liable to compensate him for any diminution of income which may be caused by any statutory alteration of the fees payable to district surveyors in respect of alterations and additions to buildings.

(v.) That he will keep his district office open from Monday to Friday (both inclusive) between the hours of 9.30 A.M. and 5 P.M., and on Saturdays from 9.30 A.M. until 1 P.M., and give his personal attendance there daily from 9.30 A.M. to 10.30 A.M.

(vi.) That he will retire if required to do so on attaining the age of 65, or at any date subsequent to his attaining that age.

(*c*) The declaration of the appointed candidate shall, on his appointment, be entered on the minutes of the Building Acts Committee.

7. *Rearrangement of Districts.*—The districts allotted to district surveyors shall be re-arranged as opportunities may occur, so that the average of the fees received may in no case amount to less than £500 a year.

8. *Naming of Streets and Numbering of Houses.*—The name of any street approved on behalf of the Council must be one which is not already in use in the county. It should, if possible, be in some way associated with the locality, and should generally consist of one word with or without the addition of "street," "road," or other like term.

9. In numbering houses, St. Paul's Cathedral shall be recognised as a central point; and the numbering of houses shall begin at the end or entrance of the street nearest to that building, except that if a street leads from a main thoroughfare to a less important street, the numbering shall begin from the main thoroughfare.

Taking the sides of a street as left and right (assuming that the back is towards St. Paul's), the odd numbers shall be assigned to the left-hand side and the even numbers to the right-hand side.

THE CORBRIDGE EXCAVATIONS, 1914.

The Corbridge excavations have been closed for the season after a comparatively short but not unprofitable period of work. The war broke out only a fortnight after operations had begun, but the committee decided to continue and so avoid throwing men out of work at a time when there was likely to be a general diminution of employment. The staff consisted mainly of men who had passed the age limit for recruits, and in its contribution to the Territorials and to Lord Kitchener's Army Corbridge has certainly not been behind other villages of its size and class.

The work of the season was carried out on the eastern portion of the site, and the results, though not spectacular, have been, says a correspondent of the *Yorkshire Post*, of considerable importance. Nothing architectural was found in any way comparable with the Granaries or "Forum." Except for two or three plain oblong foundations near the south end of the ground, the only definite structure unearthed was a circular building about 25 feet in diameter, and very roughly put together. When it was first discovered hopes were entertained that it might prove to be a small temple of a humble character, but further investigation has left the conjecture a conjecture still; possibly it may be correct, but an examination of the interior yielded no evidence either for or against the theory.

In this, the northern part of the ground examined, the most important work was the tracing of the ditches, a difficult and somewhat tedious process, which the ordinary visitor found it hard to understand, though few parts of the excavations have been of greater importance. The ditches were three in number. The most northerly was a new discovery, and probably merged in a marsh further to the west; it appears to have been used for sanitary purposes, and had been sealed up with a covering of puddled clay. A short distance to the south of this was another ditch, a continuation of the North Ditch found in 1909; it seems to mark the northern limit of the town down to a certain date—possibly the time of Septimius Severus, but

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later it had been filled up and in places built over. It is not unlikely, however, that the portion traced in the present year was originally an outer ditch of the early fort, which will be mentioned presently; at the east end it was found to make a rounded corner, and then continue towards the south, and in some future year it will probably be traced right across the east end of the town.

Between these two ditches were the remains of a clay rampart, about 16 feet in breadth, laid on a foundation of cobbles edged with a stone kerb. This was not altogether a new discovery, as the kerb and cobbles were found further to the west in 1909 and 1913, but as the clay at these points had disappeared, the true character of the work was not recognised at the time. In the 1914 area the clay remained to a height of nearly 2 feet, and was clearly the base of a rampart—a rampart, in all probability, of late date, constructed after both the adjoining ditches had been filled up, and not furnished with a ditch of its own. This latter point in itself suggests a date not earlier than the end of the third century.

To the south of the two ditches already mentioned was a third, which at first appeared to be a continuation of the ditch found in 1913, and forming a return eastward of the early north and south ditch that was found almost under the western edge of the principal north road or Dere Street; but the two portions were not quite in line with one another, the part explored this year pointing at the west end a little to the north of the line found in 1913. The discrepancy, however, is strong evidence of the early date of the ditch, since it suggests a gateway of the type found in the Agricolan fort at Newstead, near Melrose, where the gate has not been a plain opening in a straight rampart, but a transverse passage, with the adjacent ramparts and ditches arranged "en échelon." The point cannot be regarded as absolutely determined, as the tracing of ditches is very difficult, and sometimes even dangerous, when the lips of the ditch are 8 feet or more below the present surface; but it is reasonably probable that we have here the remains of an early fort, and the suggestion is borne out by the fragments of pottery found in this particular ditch; these indicate that the ditch was open about the end of the first and beginning of the second century—say A.D. 90-110—and this agrees with the pottery evidence found in the western section of the ditch in 1910.

The theory of an early fort, or at any rate an early settlement, was conspicuously confirmed by the work done during the latter part of the season on a piece of ground immediately to the east of the Dere Street and within the boundaries of the suggested fort. To judge by the level at which the undisturbed gravel was found, this must in early Roman times have been the highest part of the site, and therefore the most suitable position for a fort, and here almost every trench produced Samian and other pottery of about the end of the first century, indicating an occupation which may have begun late in the reign of Domitian, and lasted well into the reign of Trajan. Similar ware has been found in other parts of the site, but only in isolated deposits; here it was sufficiently abundant to show that in this east quarter of the town we have the earliest permanent settlement, and the ditches make it fairly certain that this settlement was a fort—a fort defended by an earthen rampart, which was used as filling for the ditch when the fort went out of use.

What, then, is the historical inference? The pottery does not suggest that the fort or settlement was of as early a date as the Northern campaigns of Agricola, but it is consistent with a time not many years after that general's departure from Britain. Similar remains have been found at Cilurnum (The Chesters), at the Haltwhistle Burn camp, and at Nether Denton, near Gilsland, and the evidence, taken with that supplied by Newstead, certainly suggests that while Agricola aimed at establishing a frontier at least as far north as the line of the Forth of Clyde, the South of Scotland was abandoned after he left Britain, and a new prætentura, or chain of forts, drawn across South Northumberland and North Cumberland, on a line a little to the south of the line subsequently chosen for Hadrian's Wall.

Only a few points of the suggested line have yet been proved, but so far there has been little investigation. To the west of Corstopitum, it is quite possible that a fort may be found at or near Fourstones, in the South Tyne Valley, and Vindolana (Chesterholm) still awaits scientific investigation. Magna (Carvoran) is in the same case, and if it be part of an early line, its position south of both wall and vallum is explained. Further to the west there are possibilities at Old Brampton and Watchcross, and it seems not unlikely that the Roman road, known as the Stanegate or Carel Gate, linked up the whole line. To the east of Corbridge all is uncertain, but here again future excavations may extend our knowledge. Vindobala (Rutchester) might yield pre-Hadrianic evidence, and Heddon-on-the-Wall is a likely site for an early post. But the whole is no more than what an eminent authority has termed a "working hypothesis," and nothing but actual digging can raise it to a higher sphere.

But in any case there was a late first and early second century settlement on this part of Corstopitum. Samian pottery of the Antonine period occurs in the upper soil, though in less abundance than on other parts of the site; but at deeper levels the pottery was consistently of the date mentioned, and the coins told the same tale. Small bronze coins of the third and fourth centuries were found near the surface, but from near the level of the undisturbed gravel came a considerable number of first and second brasses of Vespasian and his sons, and (to a smaller extent) of Trajan: coins of Hadrian and the Antonines were much scarcer.

An interesting find on this part of the site was a small collection of thirty denarii and eight or nine bronze coins; all had been more or less burnt, and most of the denarii were stuck together in one lump. The earliest coin was a "denarius" of Nero, and the latest a first brass of Trajan, the bulk being of the reigns of Vespasian, Titus, and Domitian. The whole collection forms valuable evidence of an early settlement, and it may be pointed out that evidence of a settlement is prima-facie evidence of a fort. In later times, when Hadrian's Wall had been built and was held by a garrison, Corstopitum could afford to be an open town, as it probably was during at least some part of its existence; but in A.D. 90-110 such a thing would hardly be possible. Northern Britain had only recently been conquered, and still more recently there had, apparently, been a withdrawal from the furthest limit attained towards the north. In these circumstances no native tribe could have resisted the temptation of an unfortified post.

Unfortunately, no altar or inscribed stone was found during the season; the nearest approach was a small ansate tablet, probably a centurial stone, from which the inscription had been entirely obliterated. Another curious find was a large part of a flat brick, on which, before it was fired, some budding author had been practising his letters, with this result:—

O M O (or Q)
L I I N D
L E G E F E L

The meaning of the fragment is, to say the least of it, obscure, but the I I in the second line seems to be the well-known form of E. Can it be a reference to the unidentified River Lenda, which occurs in the lists given by the anonymous Ravenna geographer? It is noticeable that Lenda comes next but one after Tinea, and only two names separate it from Alauna; but speculation based on these lists, though a fascinating occupation, is archæologically dangerous.

The bronze objects found were interesting, and included a few nice pieces of enamelled work, but unfortunately the Corbridge soil is a bad preservative of this metal, and only decayed fragments came from the deeper levels. Amongst the iron implements were two small knives with their bone handles complete, and in lead there was a steelyard weight and a curious small flat bust of a woman in low relief.

Much has been done towards the elucidation of Corstopitum since the first tentative explorations in 1906, but much ground still remains to be examined, and for the present much depends on the duration of the war. Should it be possible, however, to resume the work in 1915, the reserved area will be the still unexplored section of the southern quarter of the town.

ART IN LONDON.

"PUNCH" AND THE PRUSSIAN BULLY.

It was a happy inspiration recently on the part of the proprietors of *Punch* to re-issue as a supplement the bulk of the cartoons concerning Prussian aggressiveness, which have appeared in the course of half a century. And the Fine Art Society is to be congratulated upon securing for exhibition in their New Bond Street galleries the original drawings prepared by the brilliant cartoonists. The arrangement on the walls in chronological order gives a "life" atmosphere, which would be otherwise lacking.

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THE CITY OF ANTWERP. From an old Engraving.

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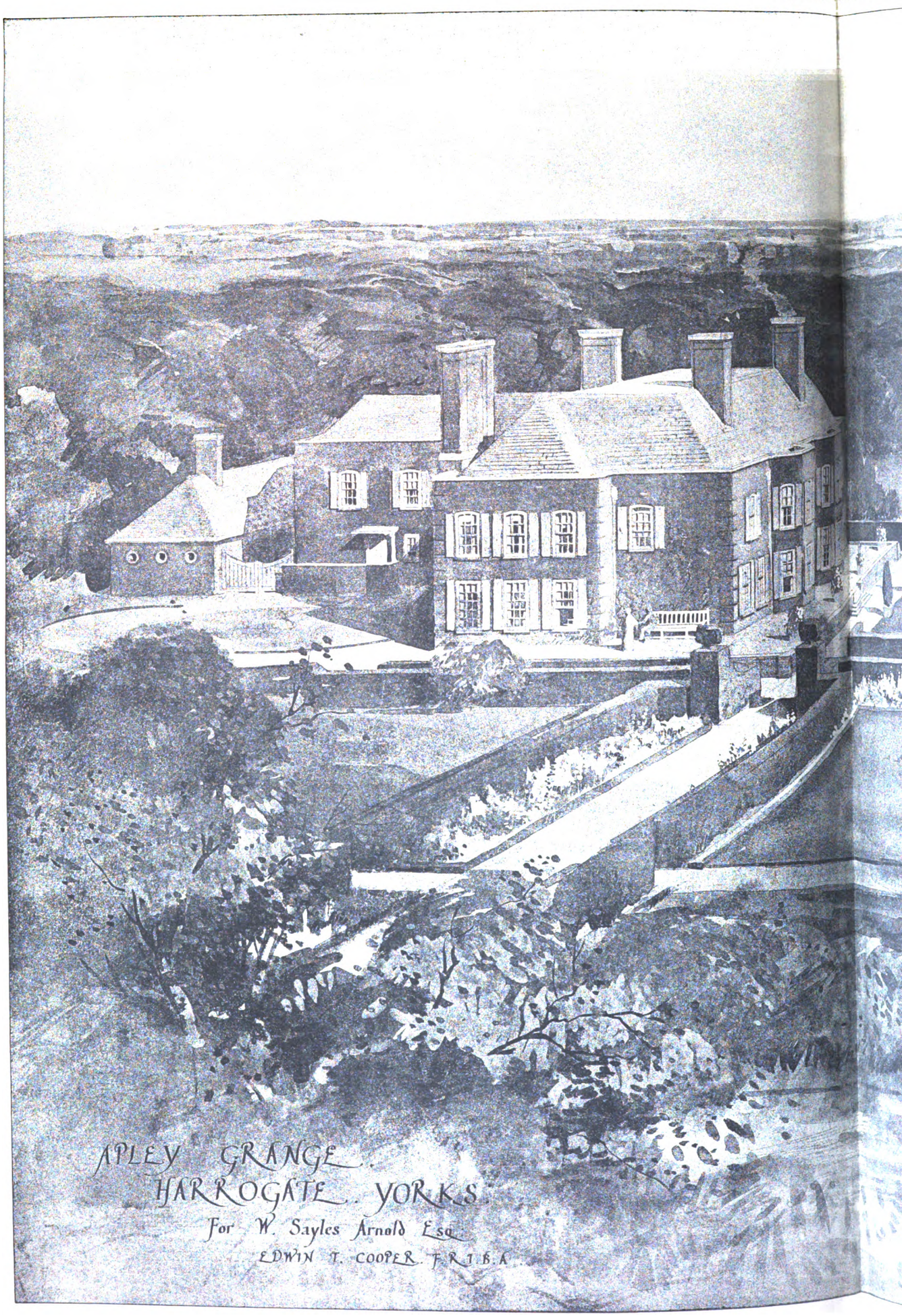
CHANCEL OF ST. MARY'S CHURCH, BEXLEY, KENT.

Mr. P. ESTCOURT HOLLAND, A.R.I.B.A., Architect.

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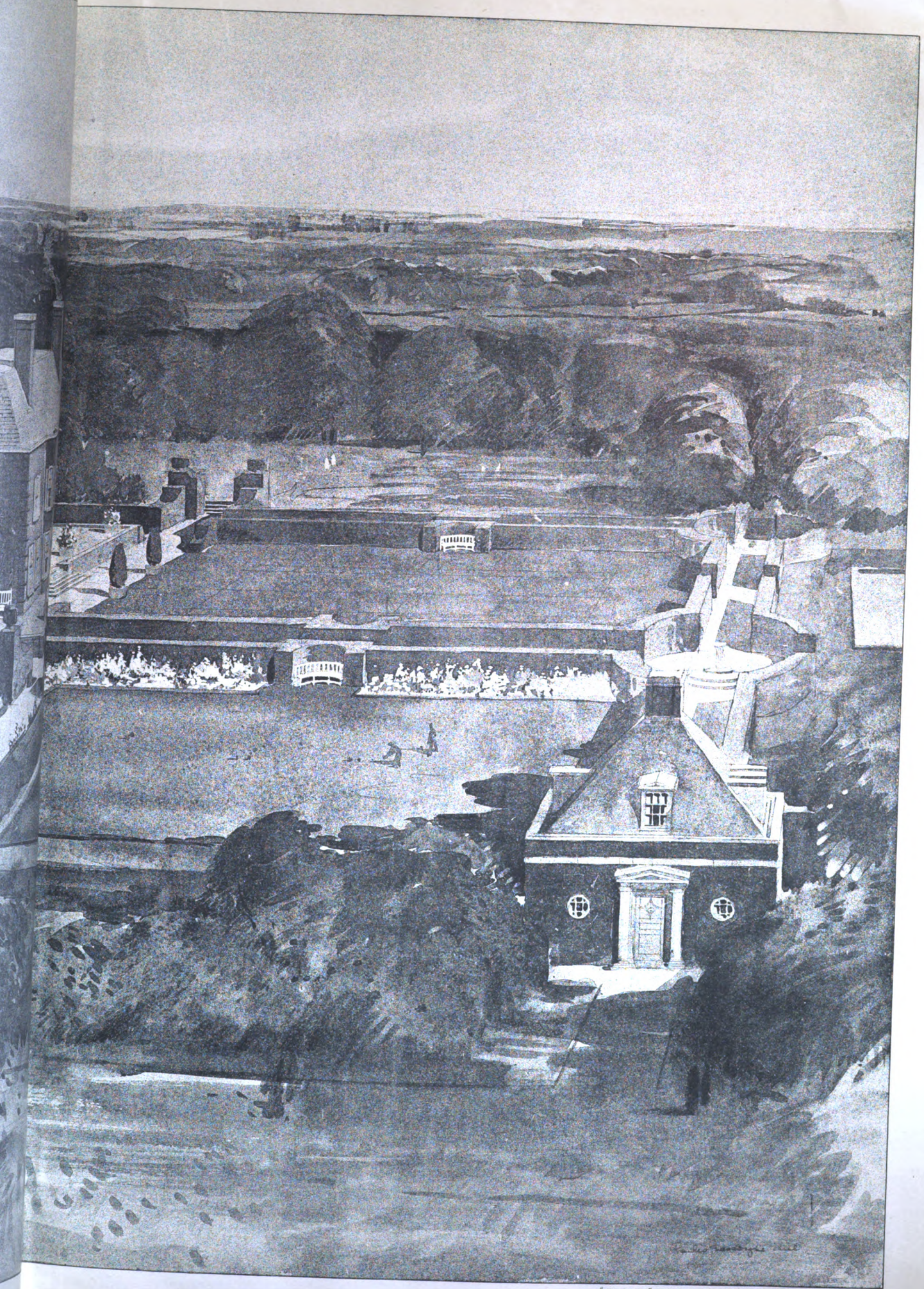
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Oct: 30th 1914.



Town Hall T. Edwin Cooper FRIBA Arch.

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It would be hard if, in the midst of some 130 cartoons, a feeling of grievance were engendered, due to the absence of one favourite of ours ("Grandmamma Victoria showing Willy the English Fleet"). Such absence is, however, less pronounced—or at any rate less to be deplored—by the inclusion of Leech's cartoon of "The German Fleet," which recalls Prussia's desire over half a century ago to develop naval strength.

Leech, Tenniel, Sambourne, Partridge, Townsend, Raven-Hill—what a fine display in combination these artists have produced! But were there only Tenniel and Bernard Partridge the exhibition would suffice. Has ever finer work been conceived and executed in the realm of *Weltpolitik* (only we may not now use German idioms) than Tenniel's "Dropping the Pilot," Partridge's "The World's Enemy," or F. H. Townsend's "Bravo, Belgium"? And second only to these should be mentioned Tenniel's "Germany's Ally," "Her Baptism of Fire," "Vae victis," Partridge's "A Sudden Detachment," "The Triumph of *Culture*," "God (and the Women) our Shield!" and Raven-Hill's "Solid" and "Harmony."

There are many other cartoons, too, which, in the absence of specific mention, seem to be subjected to a slur; but too widespread a bestowal of praise would merely have the effect (however undeserved) of detracting from the merits of all. Why the Kaiser should have been so irate regarding Linley Sambourne's "The Modern Alexander's Feast" is not apparent on the surface, though the *august* monarch might well feel ashamed of the acupuncturation of his blasphemous remarks appended to that cartoon; the resultant banishment of *Punch* from the Imperial palace is humorously indicated by Linley Sambourne in the issue for March 26, 1892. It can be readily understood that the whole portfolio of cartoons might disagree with Wilhelm's digestion; on the other hand, though, they will provoke many a hearty laugh and much admiration on the part of the public in general.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.
Abingdon.—Isolation hospital. Messrs. Thatcher & Sons, contractors, 63 Stert Street (£1,325).

CHESHIRE.
Birkenhead.—Thirty-two houses and eighteen cottage flats. Poulton, for the Corporation (£11,500).
Frodsham.—Parish Church: additions and alterations.
Holmes Chapel.—Council school. Mr. H. Beswick, F.R.I.B.A., County architect, Newgate Street, Chester.

CORNWALL.
Camborne.—Twenty-five houses, Foundry Road, for Mr. Bellman.
Six houses, Tehidy Road, for Mr. J. M. Holman.
St. Ives.—Boys' Council school.

CUMBERLAND.
Carlisle.—Proposed day technical school, Chatsworth Square.

DEVON.
Plymouth.—Premises, North Street: additions, for B.G. Mr. F. A. Wiblin, architect, 92 Old Town Street.
Plympton.—Workhouse Infirmary: extension (£3,000).
Sidmouth.—Forty-eight Council cottages. Mr. R. W. Sampson, architect, Manor Offices.

DORSET.
Easton.—Council schools, Weston Road, Tophill.

DURHAM.
Langley Moor.—Warehouses, &c., for Mr. W. Stillbeck.
Stockton-on-Tees.—Offices for the Prudential Assurance Company. Mr. P. Waterhouse, F.R.I.B.A., architect, Staple Inn Buildings, London.
Waterhouses.—Public elementary school for 500 places.

ESSEX.
Chelmsford.—Hospital, Baddow Road: extension. Mr. F. Chancellor, F.R.I.B.A., architect, 19 Duke Street.
Woodford, South.—Public elementary school, Oakdale Road.

GLOUCESTERSHIRE.
Cirencester.—Joint Isolation Hospital (£1,100).

HAMPSHIRE.
Bournemouth.—Mission Church, Moordown. Mr. F. A. Ling, architect, 120 Wimborne Road, Winton.
Fullerton.—Four cottages, near the station, for Mr. Cory.

HERTFORDSHIRE.
Letchworth.—County school, West View Road.

ISLE OF WIGHT.
Newport.—School clinic, caretaker's house, &c. (£1,200).

KENT.
Crayford.—Fifty houses, off Iron Mill Lane, for the Crayford Cottage Society.
Ramsgate.—Manstone Cottage Homes: extensions. Mr. W. T. Stock, architect, North Avenue, The Elms.
Sevenoaks.—Sixteen working-class cottages. Mr. E. Pawley, architect, 148 High Street.

LANCASHIRE.
Great Harwood.—Mercer Public Hall, corner of Queen and Water Streets (£10,000 to £15,000).
Manchester.—St. Cyprian's Church, Stanley Grove, Kirkmanshulme (for 500 sittings). £8,000. Mr. Temple Moore, F.R.I.B.A., architect, 44 Bedford Row, London, W.C. Messrs. W. Thorpe & Son (of 380 Chester Road, Cornbrook, Old Trafford) and Mr. J. B. Kendall (of Railway Arches, Hyde Road) contractors.
One hundred and seventy Corporation houses on the Temple Estate, Cheetham, and in Tebbutt Street, Rochdale Road.
Middleton.—Proposed town hall, Long Street (£18,000). Mr. G. C. Horsley, F.R.I.B.A., architect, 2 Gray's Inn Square, London.
Tottington.—Bungalow, the Jackson Fold Estate, for Mrs. Hunt.
Business premises, Greenmount: enlargement, for the Tottington Industrial Co-operative Society.
Silk factory, Kirklees, for Mr. T. E. Clarke.

LEICESTERSHIRE.
Lutterworth.—Eight cottages, for R.D.C.

LINCOLNSHIRE.
Crosby.—Council school. Messrs. Scorer & Gamble, A.A.R.I.B.A., architects, Bank Street Chambers, Lincoln.

NORTHUMBERLAND.
North Shields.—Isolation hospital, tuberculosis sanatorium, &c. (£33,000). Mr. J. F. Smillie, Borough surveyor.

NOTTINGHAMSHIRE.
Mansfield.—Forty Council houses (£6,450).

SHROPSHIRE.
Bitterley.—Four cottages. Mr. J. Butters, architect, Castle Square.

SOMERSET.
Midsomer Norton.—Public elementary school.

STAFFORDSHIRE.
Stafford.—Children's Homes, Stone Road, for the B.G.
Stoke-on-Trent.—Catholic school, Knowle Street (for 336 places). £2,650. Messrs. Wood & Goldstraw (A.R.I.B.A.), architects, Farrow's Bank Chambers, Piccadilly, Hanley. Messrs. Meiklejohn & Son, contractors, Edward Street.
Wolverhampton.—Works, Park Village, for the A.B.C. Coupler Company, Ltd.

SURREY.
Richmond.—The "King's Head" Public-house: additions. Mr. M. T. Saunders, A.R.I.B.A., architect, 16 Palace Street, Westminster, London.

SUSSEX.
Bognor.—Council school. Mr. W. H. B. Fletcher, architect.
Crawley and Ifield.—Council school for 450 places.
Horsham.—Isolation hospital.
Ifield.—See above.
West Chiltington.—Smallpox hospital.
Worthing.—Proposed Council school, East Worthing, for 600 places.
Sewage disposal works: pumping station, &c. (£1,550).

WARWICKSHIRE.
Birmingham.—West Heath Hospital: additions and alterations (£8,700). Mr. W. H. Ashford, A.R.I.B.A., architect, 90 New Street.
Nuneaton.—Children's Home: extension, for B.G.

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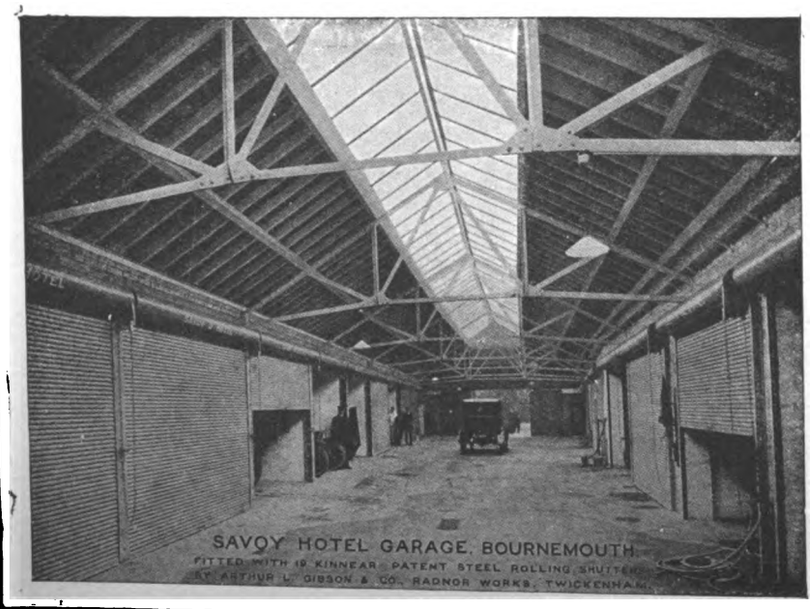
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ENGLAND—*continued.*

YORKSHIRE.

Askern, New.—Council school.
Barnoldswick.—Council school, Four Lane Ends, Gisburn Road.
Halifax.—Premises, New Brunswick Street: alterations. Mr. T. Kershaw, A.R.I.B.A., architect, 26 George Street.
Ingleton.—Council school for 600 places. County architect (Wakefield); also
Rossington.—Council school.
Tadcaster.—Parish hall. Mr. Thompson, architect.

WALES.

Denbigh.—Municipal buildings. Mr. James Hughes, architect, Park Street.
Rhos.—Forty-four workmen's houses (£11,000).

SCOTLAND.

Aberdeen.—King's College: Examination hall (£14,000) and additions to the Library (£7,000).
Arbroath.—Iron works: extension, for Messrs. A. Shanks & Son, Ltd.
Carmunnock.—Home for forty children, for the Glasgow East Park Home for Infirm Children.
Coatbridge.—Technical School and Mining College: extension (£7,000).
Cupar.—Cinema Palace, The Fluthers, for Mr. W. M. Mackie (of Kirkcaldy).
Dundee.—Public-house, corner of Whitehall Crescent and Crichton Street, for Miss Lowden.
Tenement, Bank Street: alterations, for Messrs. J. Leng & Co., Ltd.
Theatre, Rosebank Street: reconstruction, for Mr. D. Stewart.
Edinburgh.—Y.M.C.A. new premises, St. David Street. Mr. G. W. Browne, architect, 24 Charlotte Square.
Glasgow.—Knightswood Hospital, Knightswood Road: extension.
Methil.—Proposed new parish church (£1,000).

IRELAND.

Balrothery.—Workhouse: additions. Mr. A. Scott, architect, 49 Upper Sackville Street, Dublin; also
Dunshaughlin (Co. Meath).—Twenty-five cottages.
Ennis.—Co. Clare Sanatorium: extensions. Mr. W. H. Allen, architect. Messrs. Kennan & Sons, Ltd., contractors, Fishamble Street, Dublin.
Fermoy.—Proposed 270 labourers' cottages.
Slatta (Co. Roscommon).—Catholic Church: reconstruction and enlargement. Mr. J. V. Brennan, architect, Belfast Bank Chambers, Belfast.

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 21,578. Sept. 24, 1913.—Domestic fire grates. K. S. Jassawalla, 11 Southhill Park Gardens, Hampstead, N.W. This invention relates to improvements in domestic fire grates of the type wherein air for use in warming the room is passed through a chamber situated above the grate and immediately below the chimney, and is heated in its passage therethrough by contact with vertically arranged tubes extending through the chamber, and up which the hot products of combustion pass to the chimney. The object of the present invention is to provide an improved construction of apparatus of this type which may be readily applied to an existing fire place, and the parts of which may be easily disconnected and removed therefrom when desired. The invention comprises a removable air-heating box having vertical smoke tubes and adapted to be secured within a chamber situated vertically between the grate and the chimney. The inlet of the removable air-heating box is connected through a pipe to the external air, or to a fan or air compressor. Fig. 1 is an elevation, part section. Fig. 2 is a horizontal section partly through i.-ii. and partly through iii.-iv. of fig. 1. A is a grate with removable tiles above covering a chamber H of any suitable shape, to which and to the grate frame C is suitably fixed by screws G a removable air-heating box I (shown as a vertical section through v.-vi. of fig. 2). D is a tube passing either immediately from within or without the room or indirectly viâ a fan, air compressor, or to a blower ring B (from which it can be cut off), and then upwards into the box I. This ring B is constructed after the manner of a gas cooking ring, or is of any other shape with a number of small holes, and, being placed below the fire bars of the grate, provides an extra air draught to accelerate the combustion when needed, when the fire is lit or when it afterwards becomes dull. The box is horizontally intersected by a variable number of plates or partitions J, J^1, which on only one side alternately terminate just before reaching the side of the box, being on other sides part of the box frame. When hot air, smoke, and gases ascend from A, they pass vertically through all the tubes O, O^1, O^2, and out into the chimney P. The hot air in these tubes heats the air round them, and this warmed air rises, passing alternately through the space formed between the edge of a plate J^1 and the wall of the box, and between the edge of a plate J and the opposite wall of the box, and passes ultimately into the

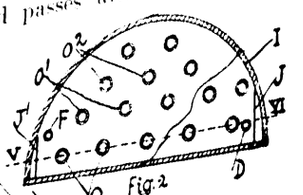


Fig. 2

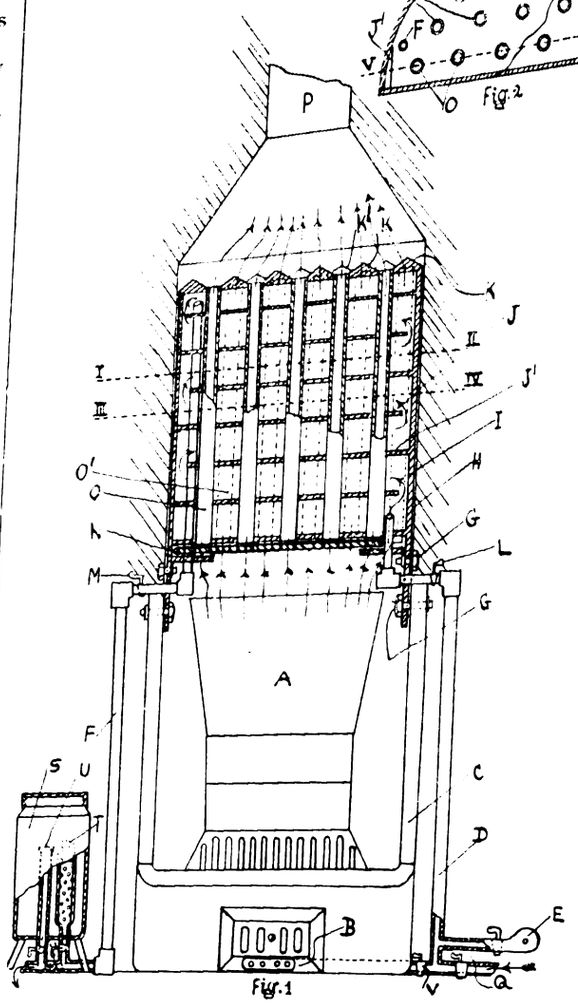


Fig. 1

pipe F and thence into the room, warming it. Pipe F may also be connected up with any disinfector, perfumer, or vaporiser, one form of which is shown as S. The hot air in F passes out of a perforated device T either into a disinfectant (for sick rooms, hospital wards, and so on) or simply into water, thereby vaporising it and imparting to the air a healthy humidity. After vaporisation, the moistened air passes into the room viâ pipe U. K and K^1 are cones filling up as far as may be the spaces between the orifices of the tubes, thus facilitating the breaking up of soot fragments falling from the chimney P and causing them to glide into the tubes O, O^1, O^2, instead of choking up their orifices. The entire box containing the tubes can, for purposes of cleaning it and the chimney above it, be removed by unfastening it. Removable structures are also more easily repaired than built-in ones. Where greater draught is required the pipe D may be connected up at E with a fan or air compressor.—Sept. 23, 1914.

THE Society for the Protection of Ancient Buildings is organising an appeal to the Board of Trade to save the old hall at Todmorden, which is threatened by an extension of the Lancashire and Yorkshire Railway sidings.

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Canadian Trade!

Referendex

TORONTO, CANADA.

NATURE OF PUBLICATION.

The text of Referendex consists of construction data and specifications covering every department of building construction, information the architect and engineer must have. No effort is made to present a treatise on any subject. Such is properly the function of the text book. We assume that the user knows his business and our aim is, then, to provide a convenient and complete memorandum of the working data of construction and, where possible, general specifications or specification clauses following the best modern practice. Great care is taken throughout to make the text reliable. A bibliography concludes each section.

The text is separated into departments, and each section is correlated with the advertising of companies or individuals from whom the product dealt with may be purchased. Such advertising is the natural supplement of the purely technical when, as in REFERENDEX, it shows the extent to which theory may be carried into practice. Each advertiser is asked to prepare his copy in such a way as to impart a maximum of information concerning his products, emphasising the utilitarian aspect of the book, so that the user is free to make his selection of materials from our pages on the merits of the products.

USEFULNESS.

Utility is the master-key of modern business, and utility is the fundamental of REFERENDEX.

No structure is ever planned without recourse to various technical data and related advertising, and until the advent of our publication reference was necessary to many sources of information and a multitude of catalogues if an intelligent design was to be attained.

Which is logical: to secure required information from one volume systematically arranged and thoroughly indexed for ready access to every department, or to use many separate works of doubtful convenience and a never complete library of catalogues?

Obviously the combining in one volume of the essential data concerning each branch of work makes for the convenience and pleasure of the user. And it is in this combination of the text book and the catalogue that REFERENDEX is unique. Modern architectural practice demands not only a knowledge of the theory of construction, but an intimate knowledge of the many patented and manufactured materials and appliances which constitute so important and an ever increasing part of all building. Here again REFERENDEX holds value for its readers in the wide range of the subject matter of its advertising.

REFERENDEX vs. CATALOGUES.

Those who are familiar with the average drafting room know with what an astonishingly meagre supply of catalogues the design of a building is sometimes worked out. This is possible because there are a number of very common materials which may be used in almost any building. But immediately the designer has a wish to bring his work in line with the modern trend, he becomes dependent upon the advertising of periodicals for information relating to the newest materials and processes.

A catalogue which is not kept is worse than useless—a catalogue kept, but forgotten, is nearly useless—a catalogue kept, remembered, but lost in a pile of others, is a nuisance—a catalogue in use is worth more than its weight in gold. The chances of uselessness, however, are high. They are further increased by the fact that very few firms can indulge in broadcast circulation.

This, then, is the "catalogue problem." It is solved by REFERENDEX. Unlike catalogues and literature, an announcement in it is not publicity for a short, indefinite period. Our publication reaches 3,000 architects, engineers, builders and contractors. It is kept by these 3,000 members of the building interests for 365 days. Kept because it is a limp-leather covered hand-book which is a veritable treasure house of information pertaining to their business.

REFERENDEX circulation is positively definite. REFERENDEX is too big and handsome to get lost on the shelves. REFERENDEX is not so big as to be unwieldy. REFERENDEX is indexed and cross-indexed. Its information is as accessible as a book can make it. In short, our publication does most of the work of the ideal catalogue, and at a much lower cost.

EASE OF REFERENCE.

The size of our publication makes it an ideal one for its purposes. Cumbersome volumes can never find a place on the drafting table. They may offer the advertiser a large page for the display of his announcement, but in doing so defeat their own object, which is utility in the designing room. A work of this nature to be practical must be of a size allowing it to be in active use. An architect working out plans and specifications wants his information where he can refer to it instantly. This demands a volume of compact size. REFERENDEX, an ideal size, 11 inches by 7 inches, allows it to become part of the actual equipment of the office.

OUR ORGANISATION.

In every organisation the policy which governs its attitude toward those with whom it deals is the determining factor in its success or failure. The policy of REFERENDEX COMPANY, LIMITED, is broad, founded on the basis of giving more than the actual contract calls for. The possibilities of our organisation have been carefully considered. We have got on an elevation and judged results in the aggregate rather than in the individual case. Every assistance and service possible is rendered our advertisers and the users of our publication.

Every department of the organisation is in charge of practical, experienced men—men qualified by special fitness to handle the work to which they are assigned. The publication is conducted without fear or favour. All advertising copy is subject to the approval of the publishers. Users are assured that to the best of our knowledge and ability nothing is advertised in our pages which is not as represented.

LOW COST.

The amount of investment in any advertising should be one of the determining factors, and in this respect REFERENDEX is splendidly situated. Our rates are lower, considering the quality and duration of circulation, than those of any medium reaching the building interests. These rates mean a page announcement can be placed before each of the desirable individuals and firms who use REFERENDEX at a cost of two cents each. The more pages the lower the rate.

This is lower than the cost of one letter, and considerably less than it would cost to have the same matter printed and sent out. On this basis the user of our publication would need to read an advertisement only once to give the advertiser the publicity obtained from a letter or circular. Announcements in REFERENDEX are, however, referred to many times by the users. Our manual remains as a valued work in their offices every day in the year. Dollar for dollar of advertising values it is by far the best publication in its field in Canada.

GILBERT WOOD & CO., Ltd., Publishers, 6-11 Imperial Buildings, Ludgate Circus, London, E.C.

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PATENT SPECIFICATIONS PUBLISHED OCTOBER 22, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 21,581. Sept. 24, 1913.—H. T. Durant and the Metals Extraction Corporation, Ltd., Finsbury House, Blomfield Street, E.C. Separation of zinc from sulphide ores.

21,597. Sept. 25, 1913.—G. S. Lord, Clarendon Works, Moss Lane, Whitefield, and Peter Barlow, Clifton Road, Prestwich, Lancs. Hot-water circulating boilers.

21,673. Sept. 25, 1913.—James Veitch, 51 Teresa Street, Blaydon, Durham. Device for removing indentations from metal pipes and the like.

21,931. Sept. 29, 1913.—W. E. Muntz, 6 Breams Buildings, Chancery Lane, E.C. Selecting device for electric bells and the like.

22,045. Sept. 30, 1913.—E. O. F. Viola, Fashion Street, Spitalfields. Pipe couplings.

22,285. Oct. 3, 1913.—J. G. A. Kitchen, 7 Rose Bank, Scotforth, Lancaster, and I. H. Storey, Loughrigg Brow, Ambleside, Westmoreland. Bunsen burners for vapourous liquid fuel.

23,043. Oct. 13, 1913.—H. N. Leask, "Mon Abri," 30 Penkett Road, Liscard. Means for mechanically emptying refuse bins, hoppers, bunkers, or the like.

27,083, of 1913, filed May 25, 1914.—Mark Pelly, 76 Old Hall Street, Liverpool, and G. T. Oldham, 5 Mill Lane, Wavertree, Liverpool. Locks or catches.

27,234. Nov. 26, 1913.—Maxim Kogan, Finsbury Pavement House, E.C. Doors of elevator shafts.

27,428. Nov. 28, 1913.—Evan Llewellyn, Tanbryn, Ystrad Rhondda, Glam. Means for adjusting skylights, ventilators, windows, and the like.

28,191. Dec. 6, 1913.—G. P. Crowden, 70 London Road, Peterborough. The extraction or recovery of valuable products from clay, and the employment of such products in the manufacture of bricks and the like.

28,324. Dec. 9, 1913.—C. H. Thompson, The Lodge, Knutfield, Somerset Road, Edgbaston, Birmingham, and William Mavitta, Anchor Works, Park Road, Aston, Birmingham. Drafting machines (for draughtsmen's use).

29,598. Dec. 23, 1913.—The North of England School Furnishing Company, Ltd., and C. A. Gray, all of Blackwellgate, Darlington, Durham. Pivoted windows and casements.

29,963. Dec. 30, 1913.—A. T. Scorey, A.M.I.E.E., 75 Great Tichfield Street, W. Draught preventers for doors and the like.

30,036. Dec. 31, 1913.—John Shanks, Tubal Works, Barrhead, Renfrewshire. Water-closet pans; and 43, Jan. 1, 1914.—Flushing apparatus for water-closets.

1,307. Jan. 17, 1914.—S. M. Saunders, 43 Lower Mosley Street, Manchester. Hot-water circulating systems for heating and like installations.

2,021. Jan. 26, 1914.—H. J. Yates, Essex Works, Thimble Mill Lane, Aston, Birmingham. Gas fires.

4,004. Feb. 16, 1914.—The Kinnear Manufacturing Company, of Columbus, Ohio. Fire-resisting doors.

4,294. Feb. 19, 1914.—David Wilson, 69 Drury Buildings, 21 Water Street, Liverpool. Electric hoists, cranes, winches, and the like.

5,888. March 9, 1914.—Isaiah Hall, Whitehouse Street, Aston, Birmingham. Atmospheric gas burners.

11,344. May 8, 1914.—S. H. Donnelly, Lytton Avenue, Letchworth. Rising and distributing means of water-storage reservoirs.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Artists' War Fund.

Sir,—The artists of England—painters, sculptors, and engravers—are eager to do everything in their power at this time of crisis to help their country's cause. Many have enlisted in the Army, and many have already made contributions to relief funds. There is, however, another way in which all may help; and that is by the free gift of their work in aid of the Prince of Wales's National Relief Fund. To this end a large number of leading artists throughout the country have placed at our disposal signed and framed examples of their work, in all cases thoroughly representative. Among those who have contributed are twenty-six members of the Royal Academy, eight of the Royal Scottish Academy, thirty-two of the Royal Institute of Painters in Water Colours, forty-five of the Royal Institute of Oil Painters, thirty-two of the Royal Water-Colour Society, forty-six of the Royal Society of British Artists, fifty-six of the Royal Society of Painter Etchers, thirteen of the International Society, thirteen of the New English Art Club, together with members of the Senefelder Club, the Society of Painter-Gravers in Colours, &c. A full list of the contributing artists and their works will be sent on application, and the pictures may be seen at the gallery of Messrs. Dicksee (7 Duke Street, St. James's) from October 27 to November 3, from eleven to four daily.

We are authorised to offer to the public the 600 works which artists have presented for this worthy purpose. The first 400 subscribers of five guineas will each receive a painting in oil or water colour, or a piece of sculpture; and the first 200 subscribers of two guineas will each obtain a drawing or a print. In this latter class are signed proofs of etchings, mezzotints, lithographs, &c., by well-known artists. Only 600 subscription tickets will be issued, and subscribers' cheques beyond that number will be returned. The works will be drawn for by lot; and this part of the scheme will be managed by an Art Union, which has the full sanction of the Board of Trade. The entire sum thus subscribed, amounting to £2,520, will be handed over to the Prince of Wales's Fund, without any deduction for expenses. This has been made possible by the generosity of Mr. Sigismund Goetze, who is defraying the entire cost of printing, postage, stationery, &c., and the collection and distribution of pictures. In regard to the latter item it is only fair to say that Messrs. Dicksee (of 7 Duke Street, St. James's) had previously undertaken to carry out this part of the work below cost price.

We appeal, therefore, with confidence to the public for their generous help and support. Many of those who read this letter will have already subscribed to the Prince of Wales's Fund; but we would point out that a new subscription through our Artists' Fund will not only mean a further benefit for the National Fund, but will bring to the subscriber a work of art in every case worth the actual amount of his subscription, and in most cases worth considerably more. The ready response which we anticipate on the part of the public will enable many artists, who are inevitably among the first and greatest sufferers owing to the war, to take their share in relieving the national burden.

Applicants for subscription tickets should write at once, enclosing cheques, to the Hon. Secretary of the Fund, c/o The London County and Westminster Bank, 1 Brompton Square, S.W. Cheques should be made payable to Artists' War Fund and crossed "London County and Westminster Bank."—Yours, &c.,

O. Wynne Apperley, R.I.
Louis Ginnett, R.O.I.
Treasurers.
Martin Hardie, A.R.E., Hon. Sec.

October 24.

2nd (Reserve) London Sanitary Company.

Sir,—Your readers will be glad to hear that, through the publicity which you so kindly gave to my recent appeal for recruits and the good offices of the various professional societies, the ranks of this Company are now filled.

As an engineer, I am proud of the way in which the members of my own and allied professions have come forward, in many cases giving up good positions, and placed their ability and experience at their country's service.

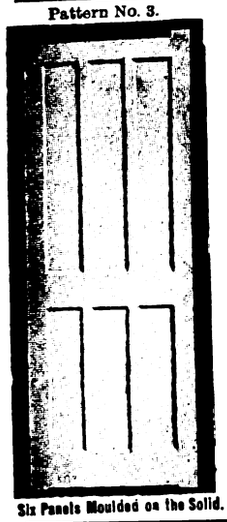
I am still receiving daily many applications from well-qualified men in all parts of the country. I am placing their names on a waiting list with a view to filling casual vacancies. They will also, of course, be available also in the event of the War Office deciding to form any additional Sanitary Companies.—Yours faithfully,

Arthur J. Martin,
Captain, R.A.M.C., T.F.

The Duke of York's Headquarters, Chelsea, S.W.:
October 26, 1914.

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Pattern No. 3.



Six Panels Moulded on the Solid.

JOINERY

OF SUPERIOR QUALITY FOR

Workmen's Houses

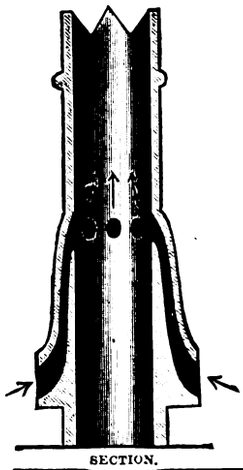
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Trades Union Labour at the Largest Wood Factory.

LAVERACK & GODDARD

Limited,

JOINERY WORKS, HULL.



SECTION.

The principal feature of the CHAMPION CHIMNEY POT is its magnificent updraft.

For many years the "Champion" has been specified by LEADING ARCHITECTS, and has sold in large numbers.

Architects speak highly of its SMOKE-CURING and VENTILATION qualities, and admit it to be of excellent design.

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Callender's Dampcourses

have gained

First Place in Specifications

by reason of

Standard Quality,

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Ledkore

(Lead and Bitumen)

Is the Last Word in a Patent Dampcourse.

FINEST COMBINATION POSSIBLE.

GUARANTEED FREE FROM COAL-TAR OR PITCH.

NO SQUEEZING. NO CRACKING.

NO EXPENSE IN LAYING.

From 4d. per foot super. All Wall Widths. 24 feet Lengths.

Send for Booklet "A" and Sample free from

GEORGE M. CALLENDER & CO., Ltd.

Contractors to Admiralty, War Office, Office of Works, L.C.C.

25 Victoria St., Westminster, S.W.

"UNIVERSAL" FLOORS

FIRE RESISTING

represent the highest standard of efficiency, and

THE REASON WHY

they are guaranteed in every respect

IS THAT—

they have withstood the severest tests from time to time. They are constructed entirely of British material by British workmen, under the constant supervision of men of 15 years practical experience. They have never failed to carry over 4 times the loads specified.

SOUNDPROOF

The Universal Concrete & Construction Co., Ltd.,

20 VICTORIA STREET, WESTMINSTER, S.W.

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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, November 9.

Surveyors' Institution : Presidential Address by Mr. Howard Chatfeild Clarke, at 8 P.M.

Wednesday, November 11.

Manchester Society of Architects : Paper entitled "The Art of Englishmen," by Mr. Roger Oldham, at 6.30 P.M.

Thursday, November 12.

Society of Architects : Presidential Address by Mr. E. C. P. Monson, F.R.I.B.A., F.S.I., at 7.30 P.M.

Monday, November 16.

Royal Institute of British Architects : Paper entitled "The Future of the Surrey Side," by Mr. Paul Waterhouse, F.R.I.B.A., at 8 P.M.

TECHNICAL TRADES TRAINING.

THE good work which is being done under the auspices of the Worshipful Companies of the City of London more particularly concerned with the building trade, in the Trades Training Schools at Great Titchfield Street, London, is worthy of even further recognition than it already receives, and of imitation by others of the cities of Great Britain. The Worshipful Companies which support these schools are those of the Carpenters, Joiners, Painter Stayners, Plaisterers, Tylers and Bricklayers, and Wheelwrights. The trades connected with building for whom classes are provided are carpenters, joiners, masons, painters and decorators, plasterers, plumbers, smiths, stone carvers, tylers and bricklayers, wheelwrights, wood carvers, and electricians. There is also a class for instruction in modelling from the life.

The decay in our educational system for the building crafts of the old-time principle of apprenticeship, with, in the palmy days of the Worshipful City Companies, something very like a qualifying examination before the workman could become a master, renders absolutely essential some provision for instruction of a definite kind by qualified teachers beyond the imperfect education which, under modern conditions, is all that a young craftsman picks up in the shop. The youth who now enters a shop in any of the building trades does so with the view of at once earning his living, more or less, rather than of learning his trade. He has to be paid wages of a fixed amount, and his employer must therefore see that he earns them. Consequently he is likely to be kept at that particular operation in which he first attains some degree of proficiency rather than to receive an all-round training in every department of his craft.

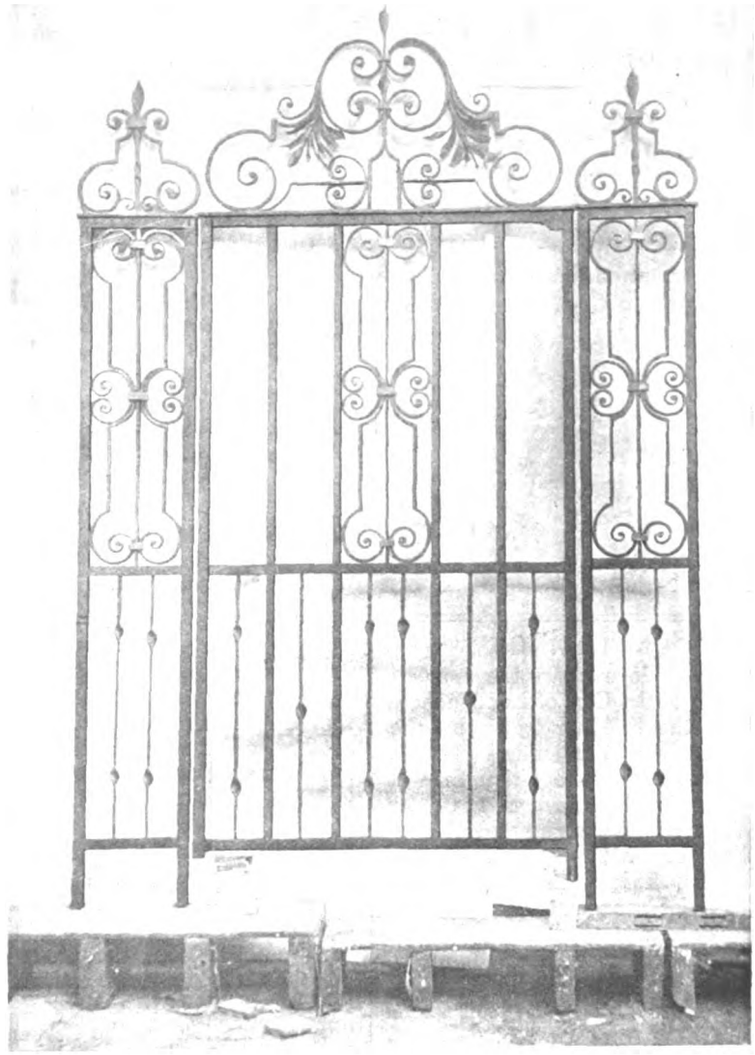
Accordingly, apprenticeship being practically extinct and direct technical training in day schools not yet recognised as universally necessary, there remains for the young craftsman who desires to be proficient only overtime work for instruction in such institutions as the Trades Training Schools. The obtaining of such instruction necessarily involving a certain amount of self-denial, it follows that the men who attend these classes are eager to improve in knowledge and practice. They receive individual attention from the instructors, to whom it is a pleasure to teach when the student is eager to learn. Each shop in the schools is conducted as far as possible on the lines of actual business experience; with this difference, that nothing is hurried and nothing is left unexplained, so that a man is not only taught how to do a certain thing in a certain way, but learns why it is done in that way. Such a method of instruction leads a worker to find pleasure and satisfaction in his work, and its success is attested by the fact that students of the schools usually get rapid promotion in the shops where they gain their livelihood, for employers are quick to detect the difference between the instructed and the uninstructed artisan. Further evidence of the value of the training in the classes, in woodworking especially, was shown by the successes of those students whose work was entered for the exhibition held by the Worshipful Company of Carpenters last June.

It is gratifying to learn that those for whom these classes are intended appreciate their value by joining in such numbers that the accommodation in the existing premises is insufficient, and, in order that this hindrance to the extension of the work may be overcome in the not very distant future, the Carpenters' Company have appointed a sub-committee to consider the question of increased accommodation.

Another notable and commendable point about the instruction in these Trades Training Schools is the care that is taken to develop the individuality of each student, the powers of each being brought forward and encouraged to the greatest degree possible. It is individuality that transforms a workman from the condition of a part of a machine, a cog in a wheel, into a craftsman with an intelligent and pleasurable enthusiasm in his handicraft. In the education of those who in the future may be hoped to have the position of leaders in their craft it is most important that they should not be brought up in dull routine. We know that routine is most valuable up to a certain point. By routine we learn to tread in the footsteps of our successful predecessors. But if we rely entirely upon routine we never improve beyond a certain standpoint. We crush the initiative of the individual, reduce all to one common level of equality, but no more than equality, with the past, and effectually throttle all incentive and attempt towards progress and improvement.

We are fain to believe that, even in this age of the machine, there is a growing tendency to the appreciation of genuine hard work and craftsmanship, and while the garishness of gimcrackery and the cheapness of machine production still appeal to many, yet there is an increasing class of people who are being educated to appreciate the sterling merit of sound and traditional work, which is not only useful for the purpose for which it is made, but at the same time gives to the educated mind of the possessor a sense of pleasure and stability, and to the trained mind and hand of the craftsman a pleasure in the production.

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TRADES TRAINING SCHOOLS.—SPECIMEN OF WORK DONE IN THE SMITHS' SHOP

The joint committee of the representatives of the various City Companies who support these schools have been fortunate in enlisting the co-operation of many distinguished men, who have acted as a committee of judges for the examination of the work done by the students and the allotment of prizes to the most worthy; and the reports of these judges must be most gratifying to the managing joint committee, since they speak in high terms of commendation of the work done—terms which are clearly far removed from fulsome flattery or polite inanity, since they are tempered when occasion demands by trenchant criticism of defects or deficiencies.

The charitable work of the City Companies is well known to the public, but the excellent constructive work which is being done in the Trades Training Schools has less than its fair share of appreciation. In these the Worshipful Companies we have mentioned, headed by the Carpenters', are endeavouring to assist men in the building crafts, not only to improve themselves in their technique, but also to carry on the traditions of their forefathers so far as it will assist them in the demands of modern work. Clearly, too, no little credit is due to the organisers for the soundness of their judgment in the selection of the instructors in the several classes, and to the enthusiasm and ability of the Director of the Schools, Mr. H. Phillips Fletcher, F.R.I.B.A.

We have pleasure in illustrating on our succeeding pages examples of some of the work executed in the schools during the past year.

NOTES AND COMMENTS.

THE multitude of organisations for benefiting in some way or other our countrymen who may suffer from the war is becoming overwhelming, and overlapping must ensue in their activities. What is wanted is the organisation of centrally controlled bodies of wide scope, which may to any extent needed co-ordinate decentralised committees. The formation of a Professional Classes War Relief Council, of which particulars appear on p. 400, is therefore, to our mind, fully justified, not least because the classes whom it is intended to help are likely to be as hard hit as any in the country.

The necessity for organising assistance for those who will not be touched by the National Relief Fund finds an echo in the proceedings of a meeting of the Council of the Scottish Artists' Benevolent Association in Glasgow, when Sir James Guthrie drew attention to the special appeals which were at present being sent to artists from different parts of the country, asking them to contribute works of art, the proceeds of which were to be given to the national relief funds. Although he did not suggest that there should be any limitation of individual generosity at a time like this, he thought that before responding to these appeals artists should consider the advisability of making provision for the necessitous members of their own profession, who would be among the first to suffer serious loss on account of the war.

The Council unanimously concurred in the Presi-

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TRADES TRAINING SCHOOLS – SPECIMEN OF WORK DONE IN THE JOINERS' SHOP.

dent's remarks, and it was agreed to call a meeting of the Association to consider the desirableness of raising a special fund to meet cases of exceptional distress brought about by the present crisis.

In the *Review of Reviews* there has appeared an article by Mr. Richard Higgs on the desirability and feasibility of a "peace army to cultivate and rebuild Belgium," which contains the following passages:—

"Builders, bricklayers, carpenters, and others can be spared. Materials are very largely on the spot. Why not, then, make a national effort to rebuild and re-cultivate the land laid waste by the war?

"Let the armies of our builders be sent out with their mortar mills, steam saws, and cement waggons to follow up the heavy artillery of destruction, and let the skill of our architects be seen to be equal to that of our generals." Destruction, alas! has not yet ceased in Belgium, but it is scarcely too soon to begin the organisation of a 'peace army' to undertake the immense task of reconstructing the devastated towns and countryside.

The Society for the Protection of Ancient Buildings is making a fresh attempt to save Todmorden Hall, a fine old Jacobean mansion, which the Lancashire and Yorkshire Railway Company have scheduled for demolition in furtherance of an important scheme for widening their railway into Yorkshire. Early last year, when it became known that the building had been purchased by the Company with this end in view, the Society wrote appealing to the directors to reconsider their decision. The reply was that the directors could not comply with the request. The Society is now organising a memorial to the Board of Trade, which the Todmorden Town Council have decided to support, in a final effort to prevent the destruction of the Hall.

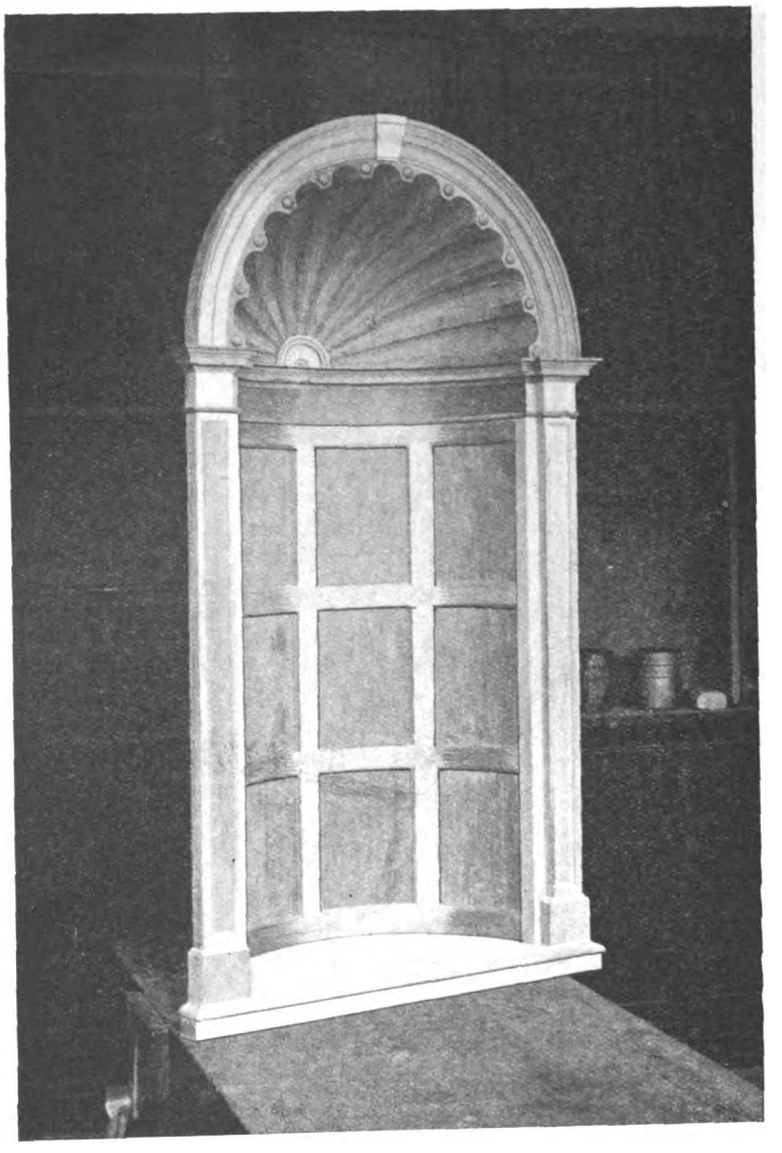
At the Local Government Board inquiry into the Cloth Fair improvement scheme, Mr. Howard Ruff, who appeared for the Royal Society of St. George, objected to the scheme. He said that his Society considered it an act of vandalism—in fact Germanic. The area contained the last of the domestic architecture of the sixteenth and seventeenth centuries running in one grouping. He could merely enter a protest. Mr. Naldrett, who appeared for the Corporation, said that the Society for the Protection of Ancient Buildings had written declaring that they would support the demolition of the houses in the scheme.

WAR ITEMS.

EXTRACTS from pamphlet issued by the Commercial Intelligence Branch of the Board of Trade on "Wooden Wares," which term includes:—

Veneers, wooden wall coverings, sheets for wainscoting (panels), crude veneered boards. Parquetry sections. Matchwood. Wooden pegs. Wares of

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TRADES TRAINING SCHOOLS.—SPECIMEN OF WORK DONE IN THE JOINERS' SHOP.

common wood, whether planed or not (flat or in profile), roughly turned or roughly carved, also glued, rabbeted, or otherwise joined together. Stained, dyed, varnished, lacquered, polished and articles combined with leather or other common materials, except furniture and parts. Wares of fine wood, or veneered with such wood, planed or not (flat or in profile), roughly turned or roughly carved; also glued, rabbeted, or otherwise put together—except furniture and parts. Wares of wood, finely turned, and articles with burnt-in, moulded or cut-in ornamentation, combined or not with leather or common materials; upholstered wares, not covered, except furniture and parts. Wares of wood, with fine fretwork or carved work; gilt, silvered, or bronzed, wooden wares (except mouldings and frames); finely painted wooden wares; wares of wood not specially mentioned, combined with fine materials, &c., except furniture and parts. Wares of wood, with inlaid work; wares not specially mentioned, of wood, with coverings of all kinds, except furniture and parts. Fine fancy wares (knick-knacks and toilet articles) of wood or materials for carving, combined or not with common or fine materials. Casks (also planed staves for casks) and other coopers' wares. Bobbins (yarn spools), spindles, weavers' reeds, and reed-teeth, also of carving materials other than wood. Boxes made of thin wood, tool handles made of hickory or ash, wooden stands for holding night-lights, clogs, window-frames, doors, stairs and parts thereof, grooved wooden mouldings. Coarse wooden wares, unfinished: cases and others. Coarse finished clogs, window-frames, doors, stairs, &c. Coarse wooden wares, with other materials. Sculpture, wood-carving work; other fine wooden wares; imitations of fine wood-carvings: other than furniture and parts thereof (except mouldings); printing blocks of wood-cut, &c.; wood-mosaic. Gilt and other wooden mouldings. Clock casements of wood. Wooden wares and wares of other vegetable carving material in combination with spun materials, &c.; wooden beads strung, suitable as ornaments. Other wooden wares.

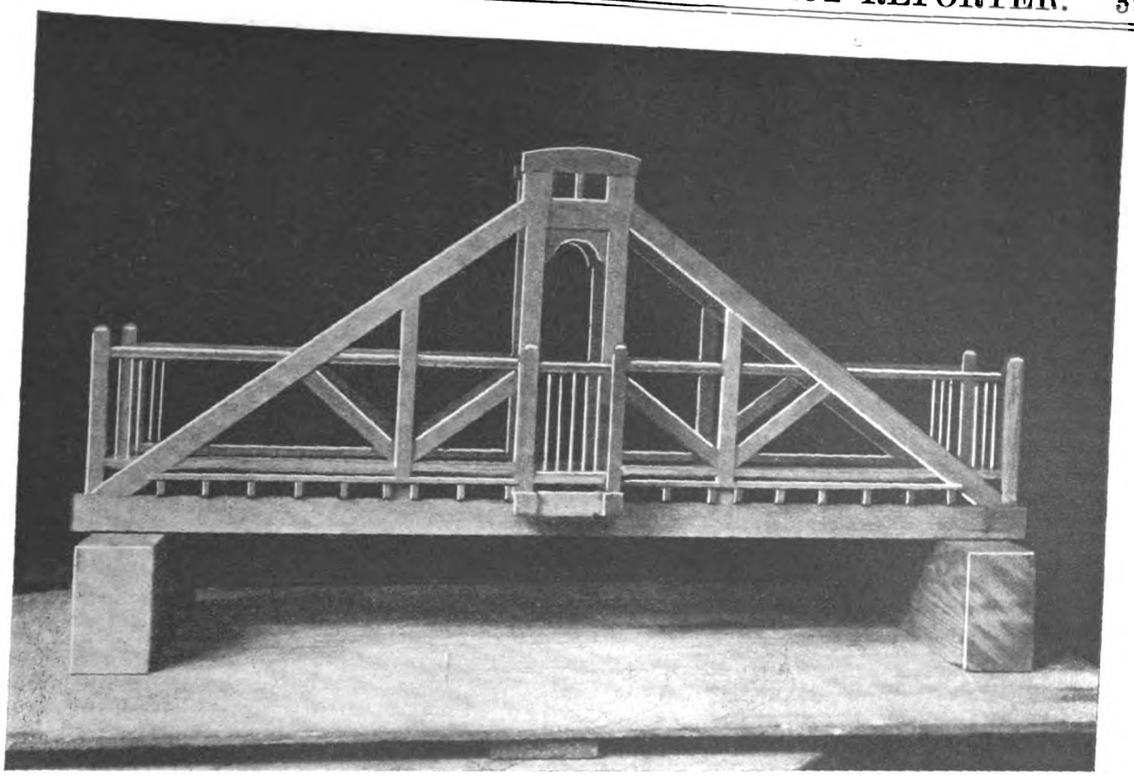
The following statement shows, for a recent year, the value of wooden wares exported from Germany, Austria-Hungary, and the United Kingdom, respectively, to all destinations:—

	£
Exported from Germany (1912) ...	2,463,350
,, ,, Austria-Hungary (1913)	705,140
,, ,, United Kingdom (1913)	766,300

Of the German exports, wooden wares to the value of £299,000 were sent to Austria-Hungary and £391,750 to the United Kingdom. Similarly, Austria-Hungary exported wooden wares valued at £269,400 to Germany and £123,440 to the United Kingdom, whilst the exports from the United Kingdom to Germany and Austria-Hungary were valued at £29,300 and £7,500 respectively.

Deducting these amounts from the totals shown above, it would appear that the effective competition

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TRADES TRAINING SCHOOLS.—SPECIMEN OF WORK DONE IN THE CARPENTERS' SHOP.

between the products of the three countries in colonial and neutral markets, considered as a whole, was as follows:—

	£
Exported from Germany (1912) ...	1,774,600
,, ,, Austria-Hungary (1913)	312,290
,, ,, United Kingdom (1913)	729,500

It is clear from the particulars given that numerous valuable openings exist for the extension of the sale of British made wooden wares in very many of the markets which have hitherto been mainly dependent on Germany and Austria-Hungary for their supplies.

The following is extracted from a report by the American Consul at Johannesburg, issued in March 1912:—

"Practically all of the pine and other softwood doors imported into the Johannesburg consular district come from the United States. Nearly all of these doors are of the old-fashioned four-panel form, made of white pine. The newer style, five-panel door, has not yet been introduced here.

"The general requirements are for lock rails 9 in. wide, with panels in one piece. The most saleable sizes of doors are as follows: 1¾ in. by 2 ft. 6 in. by 6 ft. 6 in.; 1½ in. by 2 ft. 6 in. by 6 ft. 6 in.; 1¾ in. by 2 ft. 8 in. by 6 ft. 8 in.; 2 in. by 2 ft. 8 in. by 6 ft. 8 in.; 2 in. by 2 ft. 10 in. by 6 ft. 10 in. All of the thicknesses are nominal measurements and, consequently, the actual thickness is about one-eighth of an inch less in each case than those mentioned above, but the nominal measurements are generally invoiced. The doors are packed in bundles of five, and the size and thickness are marked on each door."

The following is an extract from a letter addressed to H.M. Consul-General at Buenos Aires in August 1913 by a firm who were desirous of taking up agencies of United Kingdom manufacturers of specialities in the building line:—

"We are chiefly interested in specialities in the building line. By this we wish to convey the idea that we prefer to handle goods which we can control exclusively, not touching articles such as steel joists, galvanised sheets, &c., in which the competition is very keen, and competitors might reap the benefit of our efforts if they had similar goods to offer.

"We do not act as commission agents, but purchase for our own account the goods which we handle and sell them at our own figure.

"We import among other goods considerable quantities of oak flooring, and are open to take on other agencies preferably connected with the building trade. Any new line of goods which might be adopted in modern buildings in this country would greatly appeal to us.

"Specialities in almost any line which might be supplied to the Argentine Government, or to the State or English railways, we are in a position to handle, having intimate business relations with many of the Government Departments and railways.

"We consider that any firm desiring to do business here must be prepared to take a share in the risk and expense, and give their agents as many facilities as possible, so as to compete with the German and American manufacturers, who are most liberal. We do not wish to have any more dealings with manufacturers who insist on getting their money before the goods leave their factories, and then take no further interest in same.

"Among the essentials for this country we may mention copiously illustrated catalogues in Spanish, and advertising matter of every description. Catalogues for general distribution should not have prices, as in the United Kingdom it is impossible to calculate the cost here with Customs House duties, &c. Measurements and weights should be in the metric system."

In connection with the campaign undertaken by the Board of Trade, on the advice of their Advisory Committee on Commercial Intelligence, to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of inquiries for names of sellers or buyers of articles of which the sources of supply or markets have been interfered with by the war.

Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the inquiries, and lists are being prepared and circulated of articles which inquirers desire (*a*) to purchase and (*b*) to sell. The third list, in which is in-

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corporated the first and second lists, was published on October 14; the fourth list, which is a supplement to the third list, is now ready, and may be obtained, together with copies of the third list, on application to the Branch. Firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director of the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

We have already given in our columns extracts from the preceding lists, and in the fourth supplementary list now issued there are a number of items which should be of interest to several of our advertisers.

COMPETITION NEWS.

BURY.—The Corporation have adopted the conditions of a proposed competition for the erection of houses at Walmersley. Two classes of houses will be provided—namely, eight pairs of semi-detached to cost approximately £200 each, and eighteen houses erected in two terraces of nine each, the two end houses in each row to cost approximately £180, and the remaining fourteen houses £160 each.

MACCLESFIELD.—A conference, convened by the Lands and Town Development Committee, recently discussed the housing question, with particular reference to the proposal that the Corporation should erect workmen's houses. A suggestion was made that particulars be obtained of the cost of a six-roomed house to be let at 6*s.* clear, and the borough accountant estimated that roughly £180 must cover all costs, except land. It was finally decided to recommend the committee to get competitive plans for a £180 house, and to offer prizes of (say) £15 15*s.*, £10 10*s.*, and £8 8*s.* for the best three plans. The idea is to build ten or twelve houses in different parts of the outskirts of the town, and at the same time be within easy reach of the mills and workshops.

SOUTHEND-ON-SEA.—Members and Licentiates of the R.I.B.A. are advised that the conditions of the Tuberculosis Hospital Competition are not in accordance with the Institute Regulations, and the Competitions Committee are in correspondence with the promoters with a view to their amendment.

ILLUSTRATIONS.

DESIGN FOR A CHURCH IN MALTA.

THE design we here illustrate, which was hung in this year's Royal Academy Exhibition, is the result of sketches made some years ago, when it was proposed by the Admiralty to build a church at Malta.

The seating was required for about 1,200, and the plan, as shown, consists of nave, transepts, chancel, aisles, chapel, baptistry, and vestries, the total length being 250 feet, the width across the transepts 160 feet, and across the aisles 60 feet, the large dome being 60 feet diameter.

The materials would have been local stone, which is quarried and worked very cheaply in Malta, and the domes would have been constructed of reinforced concrete. The author of the design for this church is Mr. Philip J. Marvin.

SCREEN IN COLLEGE CHAPEL OF ST. JOHN'S NATIONAL TRAINING COLLEGE, BATTERSEA.

THIS screen, put into the College Chapel of St. John's National Training College, Battersea, is the work of A. H. R. T., F.R.I.B.A., the architect to the College, and is executed in oak by Mr. Nathaniel Hitch, of 60 Harleyford Road, Vauxhall, S.E.

The chapel is the work of the late Mr. Butterfield. The screen is the gift of old scholars or students, and therefore the matter of cost had to be strictly considered by the architect. It will be noticed that the cresting and panels have been cut by handsaw out of oak boards, which is unusual. The cost was a little over £100. The work has given much satisfaction and is greatly admired.

HOUSE AT NORTHWOOD.

WE now illustrate a further photograph of the garden front of this house designed by Mr. F. M. Elgood, F.R.I.B.A., of which a foreshortened view, with description, appeared in *The Architect* of September 4.

LE BEFFROI, BRUGES.

SAMUEL PROUT'S drawing of the Bruges Belfry, included in "Continental Sketches," well expresses its dominating height as well as its general design.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE opening meeting of the Session 1914-5 was held on Monday last, November 2, at the R.I.B.A. premises in Conduit Street, W. Mr. Ernest Newton, A.R.A., President, occupied the chair.

Mr. E. Guy Dawber, F.R.I.B.A., Hon. Secretary, announced the decease of the following members since the last meeting:—

The Earl of Wemyss and March, Hon. Associate, elected 1878; Frederick Dare Clapham, elected Associate 1901, Fellow 1909; John Brooke, elected Associate 1881, Fellow 1908 (Mr. Brooke served for three years on the Council of the Institute as representative of the Manchester Society of Architects); James Herbert Stones, Fellow, elected 1889; Arthur Charles Bulmer Booth, Associate, elected 1881; James Lindsay, Associate, elected 1881; William Bell, Licentiate; Godfrey Colles, Licentiate; Thomas Sinclair, Licentiate; and William Cowley Stevenson, Licentiate.

It was announced that the Council have nominated for membership fifteen Fellows, forty-one Associates, and one Hon. Associate.

Mr. Ernest Newton then gave the following brief address:—

PRESIDENTIAL ADDRESS.

The President is supposed to employ himself during the recess in preparing an address for the opening night.

Unfortunately—or may I say fortunately for you?—my time has been occupied in other ways, and you will be relieved to know that I am not going to inflict an address upon you. I felt—and I am sure you will agree with me—that this was not a time for dinners, addresses, and the usual accompaniments of the opening night of the Session. Our thoughts are elsewhere and, although I think we ought as far as possible to carry on the necessary business of the Institute, I feel that social functions would be out of place.

I shall, therefore, content myself with a very simple statement of what we have done, are doing, and propose to do during the Session which technically opens to-night.

On the outbreak of war the Institute formed, with the co-operation of other architectural bodies, a War Committee. The machinery, being new, has creaked a little, but I think I may say that it is now running smoothly and doing useful work. Subscriptions were also invited for the Prince of Wales' Fund and for relieving distress amongst architects caused by the war. The Institute gave a donation of 100 guineas in August to the Prince of Wales' Fund. £249 11*s.* have now been collected and £210 have been forwarded to the Treasurer of the Fund as a first donation. We have been able to hand over £591 19*s.* 6*d.* for the relief of distress consequent on the war to the Architects' Benevolent Society, which proposes to open a special account for this purpose. The Professional Employment Committee, believing that it is better if possible to provide employment than to relieve by means of doles, is arranging a programme of work which might usefully employ men whose ordinary practice has come to a standstill. £162 8*s.* has been received specially earmarked for this purpose, and the Committee hope to receive further financial support, not only from architects, but from the public generally.

The Selection Committee is concerning itself in tabulating useful information with respect to special services that may be required by the Government and in organising assistance to carry on the work of architects who have joined the Forces. They have already done most useful and valuable work.

The Architectural Association has concerned itself more with the military part of the War Committee's programme. Many of its members, following the high example of self-sacrifice and devotion to his country of Mr. Maurice Webb, the President, have enlisted in the new army. Not content with this, they have formed an Architects' Volunteer Training Corps. This corps has been able to assist the Government and Regular Forces by acting as a recruiting agency to enlist and classify men volunteering for military service, and in many other ways. The scheme has met with the approval of distinguished military officers and has, I understand, been recommended by them to Lord Kitchener as the model to which all the unofficial training corps throughout the country should conform.

It is obvious that this important work cannot be done without expense, and there is at present no particular fund on which the corps can draw. The Council of the Institute has made a grant of £50, but further contributions are required.

Under the presidency of Mrs. Maurice Webb a committee has been formed to keep in touch with, and look after, the

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TRADES TRAINING SCHOOLS.—SPECIMEN OF WORK DONE IN THE STONE-CARVERS' SHOP.

welfare of the Architectural Association recruits and those whom they have left behind, and I hope, although I know you are receiving appeals every day, that this particular appeal will touch you very nearly, and that all who can respond to it will do so generously. Some copies of the circular have been distributed to the meeting.

I am afraid that, so far, I have done nothing but call your attention to the various funds which invite donations, but you will nevertheless allow me to say that none of the subscription lists are closed and that contributions to all of them will be welcome.

Architects have responded well to the call for soldiers, and, so far as I have been able to get information, there are probably not less than 1,000 serving with the Colours.

Gentlemen, I feel that we have reason to be proud of our young brethren who have been ready without a moment's hesitation to give up comfortable homes and good prospects to serve their country at a time of need.

In regard to internal affairs, I have thought it right—and here again I am sure of your approval—to drop for the moment all controversial matters, and therefore no further steps have been taken in connection with the New Charter.

I hope that when the time comes for going forward with the work this period of trial and anxiety through which we are passing may draw the sting of controversy, and that we may concentrate on our many points of agreement rather than on those few on which we differ. Let us bear in mind, too, that Fellows, Associates, Licentiates, and men outside the Institute or any other body are now serving their country under the one title of registered, or rather, enlisted soldiers. Any further distinction will be earned by their own ability and bravery.

It has been decided to hold the examinations as usual, but the Council have resolved to postpone the Prizes and Studentships Competitions for 1915 until the year 1916, and that those candidates who, under the age limit, are eligible in 1915 shall be considered eligible for the competitions for the year 1916.

I find that my short address has already grown much longer than I meant it to be, but I feel that I cannot conclude without reference to the terrible havoc wrought by Germany in her mission to spread culture throughout Europe. On the destruction of Louvain we, in common with the Royal Academy, the Society of Antiquaries, and other bodies, sent a protest to the American Ambassador, which was duly forwarded to Washington. Since then we have felt that all further protests would be useless. The spread of culture continues; Rheims has suffered irreparable damage, and day by day adds to the list. We can only offer our heartfelt sympathies to our Allies. Belgium has lost priceless treasures, but she has preserved the most priceless of all—her honour. I have said that we can only offer our sympathies, but we can do something more. Many French and Belgian families have come to England. Let us seek them out and do all that we can not only to see that their material needs are provided for, but to make them feel that they are welcome.

In conclusion I will propose the following resolution:—"That messages be transmitted to the Governments of France and Belgium expressing on behalf of the members of the Royal Institute of British Architects their profound sympathy with the peoples of those countries in the terrible losses they have suffered by the destruction of so many of their most beautiful buildings and monuments."

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Mr. Reginald Blomfield, R.A., Past President, in seconding the resolution, said the havoc wrought by the Germans was a matter they could not talk about because they felt it so strongly. Our Allies had suffered terrible losses not only in their manhood, but also in their beautiful buildings, which architects of all people in the world loved well.

The resolution was then carried by acclamation.

The next meeting will be on Monday, November 16, when Mr. Paul Waterhouse will read a paper on "The Future of the Surrey Side."

R.I.B.A. EXAMINATIONS.

The following modifications in the scheme of examinations will come into effect after July 1915:—

Preliminary Examination.

The examination in the following subjects will be discontinued:—

1. Short English Composition.
2. Writing from Dictation.
3. Arithmetic, Algebra, and Elements of Plain Geometry.
4. Geography and History.
5. Latin, Italian, French, or German (one language only).
8. Elementary Mechanics and Physics.

But every candidate for registration as probationer must satisfy the Board that he has attained a sufficient standard of general education.

The examinations set out in the Kalendar will be regarded as indicating the required standard.

Examination in Subject No. 6 (Geometrical or Perspective Drawing) and Subject No. 7 (Freehand Drawing) will be retained as at present.

The admission fee will be £2 2*s.*, as at present, but relegated candidates will be required to pay a fee of £1 1*s.* for each subsequent attempt for all examinations after that of June 1915.

Intermediate Examination.

The admission fee for examinations subsequent to that of June 1915 will be £6 6*s.*, and relegated candidates will be required to pay a fee of £3 3*s.* for each subsequent attempt.

Final Examination.

The admission fee for examinations subsequent to that of July 1915 will be £6 6*s.*, and relegated candidates will be required to pay a fee of £3 3*s.* for each subsequent attempt.

Special and Colonial Examinations.

The admission fee for examinations subsequent to that of July 1915 will be £10 10*s.*, and relegated candidates will be required to pay a fee of £5 5*s.* for each subsequent attempt.

The Examinations and the War.

The Council of the R.I.B.A. wish it to be known that generally every consideration possible will be shown to candidates who have joined the Colours, and they will be conceded the following specific privileges:—

Candidates for the Intermediate Examination whose testimonies of study are approved to be registered as students.

Candidates for the Final Examination who have had one or more problems in design approved may be exempted from submitting others.

The Examinations and Foreign Students in English Architectural Schools.

The Council have decided to allow candidates other than British subjects, who are desirous of possessing evidence that they have obtained the status, though not the rank, of an Associate of the Royal Institute, to sit for the Final Examination, and, in the event of their passing, to furnish them with a certificate to that effect.

The Lindsey (Lincolnshire) County Council at their last meeting approved plans for the extension of Bracebridge Asylum, giving accommodation for 100 females and 67 males, at a cost not exceeding £40,000. The chairman of the Asylum Visitors was afraid still further extensions would be required in about ten years' time.

THE SOCIETY OF ARCHITECTS COMPETITIONS.

In order that injustice shall not be done to graduates or students of the Society on active service, the Council have decided to suspend all the Society's competitions for the coming session, and, in the case of those on active service, to waive the age limit, so that all may start fair when the competitions are resumed in the following session, or when the war is over, whichever shall happen first.

The Council have approved the work done by the holders of the Travelling Studentship and Scholarship during the present session. The holder of the former, Mr. Charles Bell, of Aberdeen, receives £25 and a silver medal, and the holder of the latter, Mr. F. M. Cashmore, receives £10.

The scholarship competition this year only produced two entries, probably owing to the war. The designs were not considered of sufficient merit for the scholarship to be awarded, but a prize of the value of £5 5*s.* has been given to the winner, Mr. Charles Bell, of Aberdeen.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY

The inaugural meeting of the winter session in connection with the Nottingham and Derby Architectural Society was held on Tuesday evening, the 27th ult., at the Society's Room, St. James's Street, the President (Mr. Harry Gill, M.S.A.) presiding. Previous to the meeting, which was fixed for an earlier hour to meet the convenience of out-of-town members, those present were the guests of the President at tea.

At the meeting which followed tea Mr. C. Button (Lowestoft) was elected an associate member.

ADDRESS BY THE PRESIDENT.

The President then delivered the following address. He said:—

I little thought when I was called to the chair six months ago that one of my first public duties would be to address you under such changed and painful circumstances. All preconceived ideas and arrangements for our winter session have been altered and rendered of none effect by a sudden call to arms, which startled the nation to its depths.

In one week—the first week in August—while some were enjoying holidays, and others were looking forward to a short period of change and rest, the nation was suddenly transformed from a peaceful, pleasure-seeking, if somewhat apprehensive, people to an armed camp, with soldiers, hospitals, and other evidences of military occupation everywhere predominant. I feel, therefore, that, much as I should have liked to speak on some of the burning questions directly concerning our profession—registration schemes, housing and town-planning schemes, and the like—there is only one topic which appeals to us at the moment, and that is the war; the changes that will surely come as a result of the war, and the way in which we can best prepare to meet the changes.

Let me say at the outset, what indeed I consider it a great privilege to be in a position to say, that as a profession in general, and as a society in particular, we have reason to be proud of the splendid response to the nation's call which has been made by our members; not only in connection with the efforts which are being made to preserve order and to alleviate distress at home, but also in the far more arduous and self-sacrificing duty of bearing arms for King and country. No fewer than eighteen members of this Society are now on active service with the Colours. A "roll of honour" containing the names and particulars of service has been compiled by our Secretary, and is now displayed on the walls of our rooms. We shall cherish them in our hearts during these sad days of strife, and we hope that ere long we may have the pleasure of according to every one of them a victor's welcome on their safe return.

When the first few days of excitement had passed, we who for reasons beyond our control were left at home to wait—and incidentally to learn how very hard it is to wait—steadied ourselves with the cry, which now bids fair to become our national industrial motto, "Business as usual." In spite of the wisdom and saneness of that cry, everyone knows that in one sense—in the fuller meaning of words—if we are to profit by experience our business must never again be just "as usual"; we must not again be as

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we have been. I do not mean to infer that there is any reason for pessimism—far from it—for I think that prosperous times are ahead of us once the nation is free to settle down to business again; but we must prepare ourselves to meet changes—changes in style, perhaps; changes in methods of work; changes in the cost of buildings; and, more than all, changes in the materials we employ, for in future we must pay more regard to the needs of the British manufacturer, and we must rigorously exclude any goods which bear the now odious imprint, "Made in Germany."

So far as any change in architectural style is concerned, we need not trouble ourselves very much. Speaking from a historical point of view, style has always been subject to changes. Sometimes the changes come about gradually and imperceptibly, at other times as a result of obvious circumstances; and although for the sake of convenience we divide English architecture into distinct periods, there is no definite line of division between them, but one style or period merges into another. And, further, while this development was occasionally arrested for a time by a catastrophe like the despotic government of a brutal king (John) or by the visitation of a plague so terrible as to be still known as the Black Death, it was never effectually broken, not even by war; the international disturbance caused by the French wars of Henry V. and the subsequent upheaval of the Wars of the Roses were powerless even t check the steady advance: in fact, not a few of th developments in our fifteenth-century architecture are directly traceable to the former period of strife.

It is therefore to the changes in economic conditions which will follow as a result of the war that we must give our most serious attention. If we can take our thoughts away from the battlefield for a few moments we shall see that some of the most far-reaching changes in the past were the outcome of economic conditions.

If I may be allowed to take an illustration outside the realm of architecture, but intimately associated with one of the most pressing economic problems of the hour, who, for instance, would have foretold that the discovery of the great continent of America, in the last decade of the fifteenth century, would have any effect upon the outward form of religious devotion? But that is exactly what did happen. You will remember that until then the most popular form of devotion was the presentation of wax candles or tapers to an altar in honour of a saint. This was easy of accomplishment at that time, because honey was the only known means of sweetening, and in consequence almost everyone kept a hive, or hives. But when America was discovered and cane sugar was introduced into Europe, the production of honey, and consequently of wax, declined, and soon passed out of general use. True, the offering of wax tapers still survives, but it is looked upon only as a survival, and not as a general custom.

To return to our immediate subject. You all know that in the middle of the seventeenth century a great change took place in English domestic architecture, and in English rural life; but it is not so generally known that this was the direct outcome of the adoption of swede turnips as a field crop. I know it is usual in text-books to attribute this change to the growing desire for foreign travel, but if we ask, "What was it that made foreign travel possible?" the short answer must be, "Turnips and root crops." As Michaelmas approached, and pastures began to fail, the English farmer was compelled to kill off and salt down the greater portion of his live stock, because it was impossible to feed and fatten it during the winter months. The discovery was then accidentally made that what had previously been looked upon as a simple garden herb—the humble swede turnip—was really capital fodder for sheep and cattle. Moreover, when it was ascertained that these root crops could be safely stored all through the winter, extensive field cultivation at once set in. Hitherto the only changes from salt meat possible to "my lord," in addition to the limited spoils of the chase, were fresh fish from the moat and the stew-pond, and pigeons from the dove-cote. With the introduction of root crops all this was changed. There was no longer the necessity to reduce the flocks and herds in the autumn, which consequently increased enormously in size; unenclosed land was put under cultivation, and a time of great wealth and prosperity set in. The picturesque old manor-house was discarded in favour of "the hall": a square-built, pretentious-looking Classical house, having large windows, bold cornices, and pedimented gables. And this is why, in remote districts, there may still be seen a ponderous Classical house in close proximity to a moated site whereon the remains of a half-timber manor-house are visible, with a dove-cote not very far away, circular on plan and stone-built if mediæval, or rectangular and brick-built if of Tudor and later times. Thus it was that a new era in domestic architecture was set on foot as a direct result of a discovery in agriculture.

At the dawn of the eighteenth century this Classical innovation had become naturalised, and although our country was engaged in warfare all through the century, beginning with the famous battles of Blenheim (1704), Oudenarde, and Malplaquet, and culminating in Waterloo (1815)—poor little Belgium! this is not the first time she has been drenched in blood—in spite of the energy expended in the equipment of armies and the turmoil of war—in spite of internal dissensions caused by the Stuart rising of 1745, and the American war of 1775—although the nation never knew what it was to be at peace, a quiet, dignified phase of domestic architecture was evolved in this country which, if followed up and persisted in on logical lines, with its open spaces and dignified crescents and squares, would possibly have anticipated the Town Planning Act and Garden City schemes and spared us the necessity of costly schemes of Housing Reform. It is true the net result of all the fighting in the eighteenth century was to establish the credit and reputation of England, so that when George III. ascended the throne it was said that "the energy and foresight of Pitt had made England the first nation in the world." And I think we still have reason to be proud that the reputation then obtained has not been in any way impaired.

Much as we all detest the horrible aspect of modern warfare, and much as we all long for the return of peace, we may nevertheless hope that the ultimate result will be to the benefit of our country in general and of our profession. Already the strife has knit the Empire together as nothing else could possibly have done, and has brought to light all our good qualities, some of which were prone to lie dormant within us. So that the words of John Ruskin, spoken concerning conflicts of a more chivalrous nature than the "chemical and mechanical" war to which our enemy has subjected us, may yet be true: "I found, in brief, that all great nations learned their truth of word and strength of thought in war; that they were nourished in war and wasted by peace; taught by war and deceived by peace; in a word, that they were born in war and expired in peace."

It is quite impossible for us to realise at the moment whither these stirring events are leading. It is certain we shall require an extension of our vocabulary, for ordinary words are quite inadequate to correctly describe the stupendous changes; and we shall also need to have a new map of Europe: a new map in more senses than one, but alas! we as architects shall look on the new map in vain for such sources of inspiration as Louvain, Rheims, and many other interesting towns and villages in Belgium and Northern France. We may be able to show to our posterity war trophies of "the latest and deadliest development of the blunderbuss" which German cannon "culture" has left us in their stead, but these will never draw forth a single note of artistic admiration. I am not sanguine enough to think that a protest from a local Architectural Society such as ours will greatly impress the "master criminal" of Europe, to whom even our gallant little army at one time appeared to be "contemptible," but for our own satisfaction and relief I eagerly take this opportunity to place on record our abhorrence of the barbarism and unholy vandalism which has robbed the whole world of some of its choicest architecture.

But we must await the future with hope and courage. If we are wise we shall employ this time of enforced leisure in putting our offices in order, in studying our multitudinous catalogues, and in endeavouring to find out how we can best help the British manufacturer to make his goods, and to use them when they are made—for, if the war is to be effectual, it will be necessary for the commercial conflict against the "lies and spies" of Germany to be waged as warily and as resolutely as the naval and military conflicts have been and are being waged; and while for the most part the materials we use in building are necessarily home-made, there are cases where preference should be given to British firms rather than to firms dominated by Germans, and it behoves us to seek them out.

It is too early yet for anyone to point out in detail what the foreshadowed changes will be. If I may speak

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for a moment on broad general lines, I think that one result will be that in future flat roofs will be generally adopted for large and important buildings—not because they may serve as platforms for German guns, but because experience has proved that they can be quickly and effectively protected against the assaults of aircraft, while they give greater facilities in many ways in time of war and danger. As architects it behoves us, therefore, to pay careful attention to the requirements of a first-class flat roof. Steel and concrete for construction and asphalte for the covering are materials fairly well known, and yet in more than one instance in recent years trouble has arisen owing to imperfect knowledge of the chemical action which may be set up by these component parts. In addition to the manifold qualifications required to make a successful architect, a knowledge of the rudiments of chemistry, at any rate, will be indispensable in future, and I strongly recommend this branch of study to our students.

Another question to which our attention might be turned with advantage is as to how far architects should go in an attempt to co-ordinate buildings and advertisements, for there can be no question, if we look at things from the manufacturer's point of view, that advertising is going to play an ever-increasing part in the industrial campaign. If an architect could descend from Mars, or some other planet where advertising is unknown, what would he think as he gazed upon some of our city buildings well disfigured and covered all over with flaming letters. He could not possibly escape the conclusion either that architects were spendthrifts who wasted money on unseen elaboration and ornament, or that merchants and tradesmen were Goths and Vandals who cared nothing for architectural effect. Seeing that advertisement on buildings is necessary, let us recognise it and try to make it not only effective but as pleasing as possible; and let us remember that we shall be helping in this direction if we endeavour to make our buildings proclaim to the world the purpose for which they are intended by the simplicity and suitability of their design.

I shall perhaps make this point clearer if you will allow me to use a simple illustration which recently came under my notice. Just before the war broke out a French architect, while paying a visit to this city, was asked if any of our buildings had impressed him, and his reply was, "Yes, one—the tall chimney at the electrical power station in Wollaton Street." If you have taken my illustration in the right spirit, I think you will not only grasp its fuller meaning, but you will also agree that the judgment of our ally was sound and right. The chimney is well designed and well built of suitable materials, and demonstrates the fact that a tall chimney need not be an ugly thing, belching forth clouds of black smoke at intervals. In this case it not only fulfils all its functions admirably, but it saves the necessity of numerous stacks all over the city.

A Court of Justice imposing and strong in its façades is a valuable asset towards the maintenance of law and order. A bank designed in a dignified manner and built with lasting materials will give to the community a sense of financial security. A house of prayer distinguished from all other buildings by the purity and grace of its architecture will always evoke worship; in my opinion it will be little short of a disaster if what I might call the picture-palace style, which has begun to make inroads on our religious edifices, is not speedily checked.

With regard to domestic architecture, I fancy we shall see some notable changes, both in plan and design, before very long. For the sake of dependents, if not for ourselves, many—perhaps all of us—have had to practise the strictest economy in living since the war began, and it must have astonished us to find in how many ways labour, and consequently money, could be saved and waste prevented by a little careful forethought and arrangement. If after all this experience we cannot show any improvement in our domestic plans and arrangements, then for us one phase of the discipline of war will have been endured in vain.

But perhaps the greatest lesson we ought to learn from the war is the strength and value of unity. Let us as a Society be united, and we shall accomplish much. We have quibbled as to whether registration shall be by Charter or by Bill; we have divided our forces in fighting against each other on the most trifling pretext, and it has brought no advantage to our members. Let us now give architectural politics a rest, and, while holding tenaciously to principles, let us sink our minor differences and work together for the uplifting of the profession as a whole. Diversity of knowledge and diversity of gifts amongst us there must always be, but if we direct our legislation with a view to strengthening the position of the weakest member, our efforts will always be rewarded with success.

With regard to purely local matters, the war has put a temporary check on building in this district, but nevertheless your Council have not allowed the Society's interests to lie dormant. We have been in correspondence with the City Council with regard to the new branch libraries which are about to be built in this city, and while I am not in a position to make any definite pronouncement, it is more than likely that a portion of the work, at any rate, will be submitted to competition. We have also been in correspondence with the Law Society with regard to the important question of persons who are not architects or surveyors being employed to engross plans of reference upon deeds. We have reason to think that our representations will not have been in vain.

For several months past the Council and a Special Rules Sub-Committee have been engaged upon the revision of our rules—a revision rendered necessary by the lapse of time, by the amalgamation with us of the Derby Architectural Society, and by the extension of our boundaries so as to include other neighbouring areas within our province. I take it that you have made yourselves familiar with the draft of the proposed new rules, and I shall ask you to give unanimous consent to their adoption, so that they may become operative as and from this first meeting of the session.

Lecture on Town Planning.

Mr. A. W. Shelton reported that arrangements had been made for Mr. Raymond Unwin to deliver a lecture on Town Planning at University College in January.

Thanks to the President and Secretary.

Mr. A. Ernest Heazell proposed a vote of thanks to the President for his able address. The resolution also included thanks to the President for his hospitality.

Mr. H. G. Watkins seconded the resolution, which was cordially passed, and Mr. Gill briefly acknowledged it.

On the motion of Mr. Bromley, seconded by Mr. Shelton, a hearty vote of thanks was passed to the Honorary Secretary. Mr. Royle, said Mr. Bromley, was a most admirable Secretary and his work was for the very best advantage of the Society.

Mr. F. M. Royle returned thanks for the compliment, and the proceedings terminated.

NIEUPORT-VILLE.

By John A. Randolph.

For the fourth time in its history, this quiet, irregularly planned, and rather poor town, which can also boast of some of its by-streets being more atrociously paved than even Ninove and Blaton, is in the thick of war, and has been resounding to the boom of artillery; and the crack of the rifle in its streets has also to be added to its trials.

The Normans, in the ninth century, were the first foes of the Flemings there to be a source of anxiety and trouble, and the neighbouring (remains of the) castle of Santhoven was built by the defenders for their protection, and to its shelter the people of Lombartzyde, a mile or so to the north of the present town, removed in 1160, and named it Neoportus.

In 1489 the town offered a stubborn resistance to the French, and in July 1600 occurred the famous "Battle of the Dunes," when the Spaniards, under Archduke Albert, were defeated by Maurice of Orange and his Dutch troops.

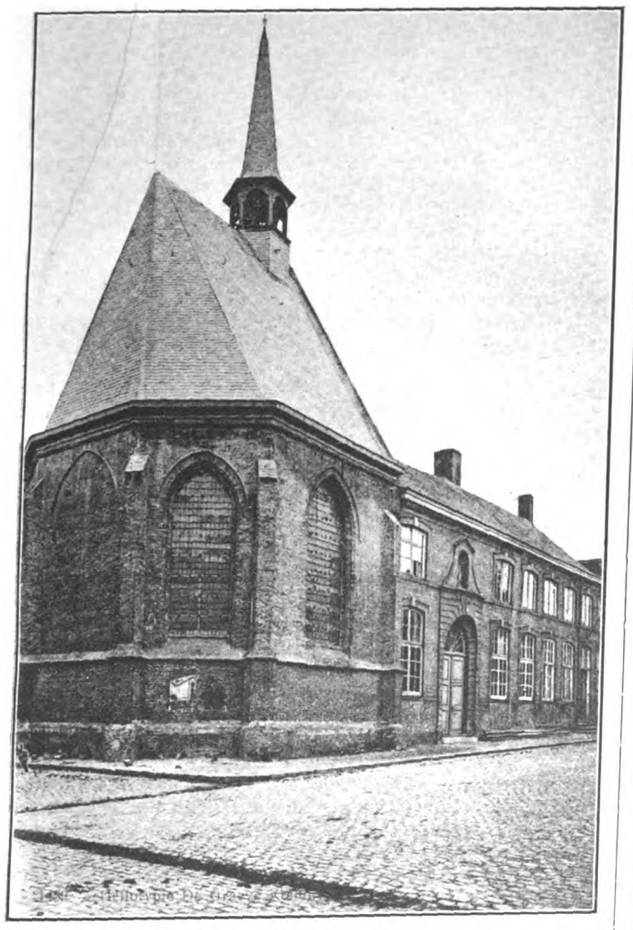
The fortifications which, in their way, were very strong, remained till 1860, when they were demolished.

The village church of Lombartzyde has a Madonna which is much venerated by the Flemish fisherfolk for centuries past.

On the way from the station, in the Rue Longue, are several old houses and the simple Town Hall with its exterior double staircase, as also the house of Albert and

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Isabella, of some artistic pretensions, while the hospital, annexed to a stepped-gabled hotel, abuts at the other end on its chapel, whose length is one wide bay and an apse, as street corner, with a daringly sharp roof surmounted by a small flêche. The windows are Gothic, but all the tracery has disappeared, and the end one has been bricked up.



NIEUPORT-VILLE.—THE HOSPITAL.

By a street to the right one goes to the Grand' Place, and, curiously enough, the roadway is up a rather steep incline, and has an atrocious surface.

On entering the Place, which is of fair dimensions, there rises, in one corner, the slender and lofty tower of the Halles, the Halles themselves having, on the ground floor, five wide gables with cusped blind arches, and each having wide doorways with segmental heads. There is a sixth (smaller) arch at the left end, surmounted by a small gable, in the face of which is a statue in a niche. The windows of the first floor are between the tops of the gables, and all under cusped blind arches. At intervals along this picturesque façade are pinnacles dividing the panelled parapet between the octagonal battlemented corner-turrets into about equal lengths. At the right-hand end is a door with arch en anse de panier, over which is a slightly pointed, rather wide window with deep-chamfered sides.

The tower face round the corner has a pointed door under a lofty cusped arch, and above it, to the chamfered circles under the parapet, are four storeys, each with a twin-light window flanked by single-light ones, a drip-stone running over the heads of each. The tower projects slightly beyond the body of the Halles. Another instance of turrets similarly placed is that of the Town Hall at Herenthals, between Moll and Lierre, but we do not remember to have seen such an arrangement elsewhere, though the one at Lierre is very similarly placed, but the Town Hall alongside it is of the Renaissance period, the turret being Gothic. It is a very pleasing one, and gives a look of picturesqueness which would be wanting were the turret in the centre of the façade. The Nieuport example dates from 1480.

The fifteenth-century church, close to, has a rood-loft of the period, the portion above the arches being a row of niches with statues. Above is a rood with curious supports at its foot, on which, at the corners, are statues of Our Lady and St. John. The beam is below. A modern wooden roof is rather a disfigurement than otherwise, as there is a hard straight line just above the west face of the chancel arch, with the intervening space to the arch of the roof open, the same line going across the whole church, above the arches of the aisles into the transepts, those arches being of the same height as the chancel arch.

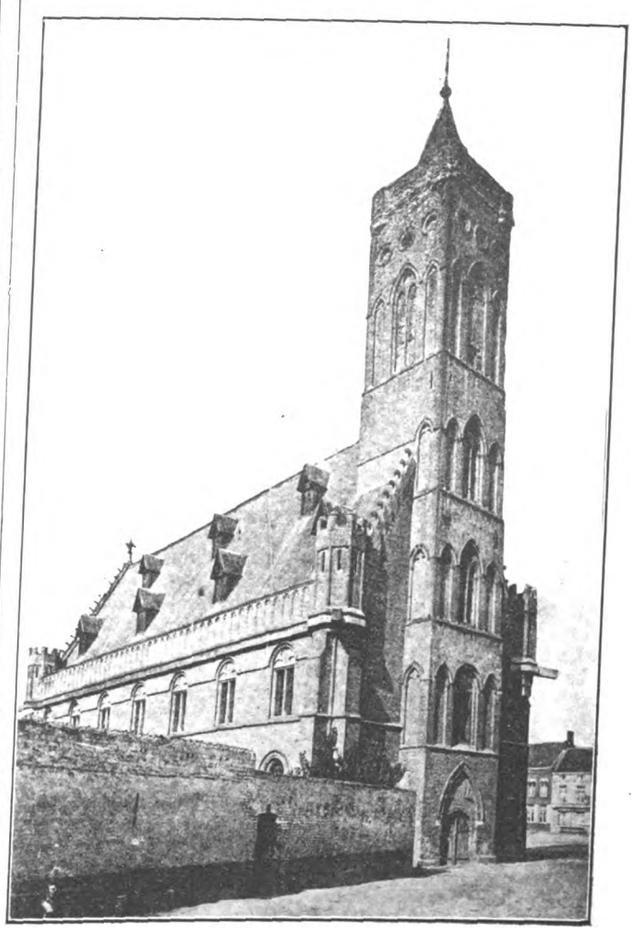
The walls on the slender columns are strikingly thin, and the capitals have two rows of foliage. The nave arches reach practically to the spring of the roof, and are of generous height and width. There is no clerestory. The aisle windows have brick tracery—frequently met with in Flanders near or at the seaboard.

One curious feature of the church is a bit of blind-tracery panelling of fourteenth-century type on the side of one of the columns near the screen, on the north side.

The north-west tower is a clumsy structure, but relieved, on one of its fronts, by a fairly elegant Renaissance canopy that has a small window over the Gothic arch, whose enclosed space has been partly bricked up and a simple pointed door inserted in its place. The upper portion of the steeple is octagonal and much narrower, with belfry lights on four faces only, and a not unpleasing roof-line above up to the vane. There is a small flèche rising from the roof of the church.

The Tour des Templiers, outside the town, is a bold plain structure with octagonal staircase turret and shallow buttresses, and evidently was part of the castle referred to above.

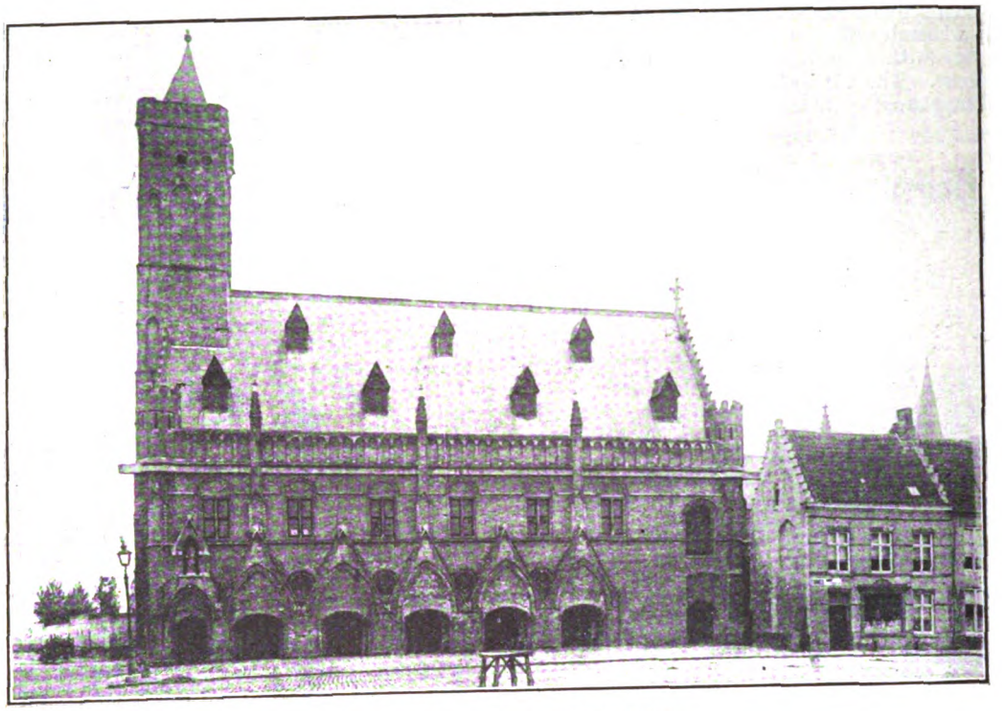
How much of the town has now been spared can only be conjectured, but it is to be hoped that the Halles and



NIEUPORT-VILLE.—LES HALLES.

church have not suffered; indeed, the enemy will hardly have had time to devote to destroying buildings, in his anxiety to save himself from extermination, unscrupulous though he is.

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NIEUPORT-VILLE.—LES HALLES.

PROFESSIONAL CLASSES WAR RELIEF COUNCIL.

DIRECTLY the war broke out the distress expected to arise therefrom among the industrial population was at once anticipated and taken in hand, to be dealt with adequately by the National Relief Fund. The response to the Prince of Wales' appeal was immediate and generous, with the result that there is little fear of irremediable upheaval of conditions among the industrial classes.

This Fund, however, as everyone knows, makes grants only to the Local Distress Committees and the Soldiers' and Sailors' Families' Association. It does not therefore touch in any way the great distress already prevalent among the professional classes, for men and women of this class cannot appeal for help to the Local Distress Committees, who possess no adequate machinery for dealing with such cases.

Yet this class is the one hit most promptly and severely by the dislocation of business and by the sudden, unexpected cessation of the demand for luxuries. In fact, not only are all the professions which depend upon the conditions of peace and the fluency of the market practically at a standstill, but also the creative and artistic professions, such as literature, journalism, the stage, art, &c. All these rely upon the conditions of peace or the demand for luxuries, and that demand is gone. However long the war may last, it is certain that the dislocation in the professions will continue for some years after peace has been made.

Many small but hitherto prosperous homes will be broken up through the mainstays being thrown out of work, or through the men, moved by the needs of their country, having enlisted as ordinary privates, receiving, of course, as such the ordinary pay of a private; this is naturally insufficient to keep the home together on anything like the standard of living that has hitherto been attained. In many cases also financial difficulties may arise because securities cannot be realised or loans negotiated.

It is obvious, then, since there is no control organisation or general fund to meet the distress already so prevalent, that the need for such a fund is very great.

During the last few weeks, therefore, there has been in process of formation an organisation to be called the Professional Classes War Relief Council.

This Council is composed of the nominees of the majority of the principal professional institutions, such as the Architects, Surveyors, Engineers, Musicians, Authors, &c., &c., as well as representatives of the chief societies engaged in relief work (in order to promote valuable co-operation), with the result that it is a very representative and powerful body of business men and women.

The Council does not propose to offer any form of charity in relief, as this would naturally be both impossible and undesirable, but it does propose to give certain centralised forms of assistance, which will, it is hoped, tide over the critical period of the war, enabling people so severely hit to resume their normal status when the war is over.

The majority of the professional societies have their own benevolent funds; these are, and must remain, quite independent, but it will ensure the most adequate return for outlay being obtained if certain forms of assistance are centralised and made available for their use.

The chief forms of assistance arranged are in matters of education, training, emigration, maternity aid, and temporary employment, all of which are worked under separate representative sub-committees of men and women whose positions and capabilities fit them especially for dealing with their special departments.

For example, the Education Committee is composed of the presidents of the principal scholastic associations, and has as its objective the arrangement of co-operation with the proprietors and governing bodies of schools, by which children whose parents through financial stress are unable to pay the usual school fees will be maintained at school at reduced fees, assisted by a grant from the funds of the Council, thereby ensuring both the continuity of the schools, many of which would otherwise have to close down owing to the withdrawal of pupils, and also the uninterrupted education of the children, which is so vitally important to the national life.

The Training and Emigration Committee proposes chiefly to arrange free training for those professions for which it has been ascertained that openings exist either at home or in the overseas dominions. This will apply mainly to men and women in already overstocked professions.

Numbers of domestic and emigration colleges have offered free or greatly reduced trainings to the Council, and these scholarships are immediately available.

The Maternity Assistance Committee proposes to open a maternity nursing home for wives of professional men, staffed by voluntary doctors and midwives. A suitable building has already been generously lent for the purpose. It is also proposed to give free maternity assistance in their own homes, so long as those homes can be kept together. This committee and staff comprise some of the most eminent men and women in the medical world.

The Temporary Employment Committee has been organised to develop opportunities for temporary employment in works of public and national utility, both for men and women.

It has also been found necessary to meet the demand for immediate relief while people are waiting to be placed in permanent work. The Women's Emergency Corps and the National Union of Women's Suffrage Societies have opened

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certain temporary workrooms for needlework, toymaking, &c., for professional women, which they have arranged to make available to nominees of the Council.

It will be seen how far-reaching and important the work of this Council is, for it affects vitally the conditions immediately confronting us while the war lasts. It may develop on such lines as would be of permanent value in forming a centre for all information relative to the conditions and opportunities of employment in the various professions.

It is necessary to form a central fund to carry on this great work, this fund being used to organise and maintain the various forms of assistance proposed; to help those members of professions which are not organised and have, therefore, no benevolent funds; to provide assistance for the families of professional men who have given up all to enlist for the service of their country.

All those who have this very real need at heart are earnestly invited to give practical support by sending donations to the Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W. Cheques to be crossed "Messrs. Coutts & Co."

Amongst the members of the Council are included Mr. H. Chatfeild Clarke, Mr. H. M. Fletcher, Mr. A. Goddard, Mr. George Hubbard, Mr. Ian MacAlister, Mr. Ernest Newton, A.R.A., Mr. Percy B. Tubbs, Mr. Paul Waterhouse, M.A., and Mr. F. R. Yerbury, representing the architectural and surveying professions.

POSSIBILITIES IN VENTILATION.*

No person who has carefully considered the problems of ventilation from the scientific standpoint can fail to have asked himself the question whether the theory of ventilation, as the ventilating engineer now knows it, can be properly called a science. Has he sufficient information on the subject of ventilation to make the application of the word "science" to this knowledge appropriate? That there is a good deal of engineering science directly and indirectly connected with certain portions of the subject—such, for instance, as the design of a fan, the design of trunking, the resistances to the flow of air, and similar things—cannot of course be denied.

These subjects, however, are not of the essence of the subject and do not exclusively belong to the science of ventilation as we know it. The general engineer is almost as much concerned in them as is the ventilating engineer. We have no right to appropriate these subjects as peculiarly appertaining to our own branch. The science of ventilation is strictly that body of knowledge which concerns itself jointly with the means for producing and the physiological effect of the distribution of air in a ventilated room and the suitable conditioning of the air so distributed.

Although great advances have recently been made, no definite agreement has yet been arrived at among physiologists as to why ventilation is necessary. Neither has it yet been laid down in definite terms what is or what is not to be considered good ventilation, and why. Fifty or even twenty years ago, when even less was known about it than at present, one might have spoken with more confidence on such subjects as this. The ventilating engineers of that date were in no doubt that any air which contained more carbon dioxide than, say, 0.5 per cent.—that is, fifty parts in 10,000—was on that account alone unfit to breathe. They therefore directed their attention towards securing that, in any space ventilated by them, this proportion was not exceeded. The necessary scientific knowledge then consisted only in the knowledge of how much carbon dioxide was emitted by each human being into the ventilated space. But, as in so many other branches of science, the more that has been learnt about this matter the less seems to be known.

In its present position ventilation is the kind of subject which positively encourages the charlatan. It is in some respects like the selling of a patent medicine. As I have said there is no general agreement as to the precise function of ventilation. When we teach somewhat obstruse scientific theories on the subject of what ventilation ought to be, and how to arrange the conditions necessary to produce the desired results, it is open to any uninformed person to disregard all such teaching as purely academic and for the practical man unnecessary. We cannot at present prove to demonstration that such a person is wrong, because we have no exact knowledge to lay down. We have no fixed and easily measured standard of excellence. At the same time no one who has carefully studied the evidence can be in doubt that the present theory on which the ventilating engineer is working is insufficient. For we have the most lamentable failures to record everywhere, even in rooms to which very large volumes of air are supplied. But even the reasons for the failures are not always easy to define.

If ventilation consists of nothing more than the supply and distribution of a certain calculated volume of air to a room, it is clear that a very small amount of science is necessary. But he would be a bold man who would call this order of knowledge—science. We have the fact to face that schemes of ventilation designed with no more knowledge than this often do not succeed. Very frequently they are the most terrible failures. We could all of us name notorious examples in London and elsewhere. But there are very few persons who could explain exactly why they are failures. In many cases such failures are certainly not due to the inadequacy of the volume of air supplied nor to the air introduced being improperly warmed, humidified, and distributed according to the best recognised standard practice. In endeavouring to explain such failures we might discuss on a scientific basis the question whether what we call upward is better than what we call downward ventilation, or, in plain language, whether we should blow our fresh air in near the floor and take what is called "four air" away near the ceiling, or vice versa. We can have differences of opinion on the question whether so-called impure or vitiated air will rise or fall. Some people argue that as our nostrils point downwards, and as CO^2 is heavier than air, downward ventilation must be Nature's method; or, on the other hand, others hold that as warm and moist exhaled air is lighter than dry cold air it will rise, and argue that the upward is therefore Nature's method. After all, what does it all amount to? Not only is there no agreement on any of these points, but it is not even generally understood what relation the removal of vitiated air bears to good ventilation.

An ordinary architect, who may perhaps make no claim to any knowledge of the science, may, and sometimes does, carry out his ventilation without any reference to the engineer. If he hears no complaints about the ventilation of his building, although he may not know anything about it beyond perhaps the amount of air the fan is supposed to supply, he might claim to be as competent to deal with questions of ventilation as the engineer. There may be and are persons who do not believe in systems of ventilation. If a room becomes too warm, they would open the windows; if too cold, they would shut them. Such persons claim that this method of ventilation is just as good as our £5.000 proposition, and in many cases we should have considerable difficulty in proving them wrong; indeed, some of us at the back of our minds might have a sneaking opinion that, for many small rooms at any rate, they were very much right. At any rate, it might be argued that such simple methods could not easily be worse in effect than some of the notorious and expensive failures which are on record. It is for such reasons as this that those of us who try to be scientific and at the same time honest are sometimes a little disconcerted when we contemplate what are the effective achievements of our science up to the present day, and to inquire in what directions we are to look for or try for progress.

It seems to me that it is possible by careful investigation to lay down conditions such that, if they are observed, a room may be and must be satisfactory from the point of view of ventilation, and, if such is the case, it is the primary duty of the science of ventilation to lay down such rules by experiment and to show how they can be carried out in practice. We have, of course, always the difficulty to contend against, which can never be overcome completely, that different persons' idea of good ventilation differ greatly. On reflection we can see that this simple operation cannot be performed with accuracy, even for one man, because any human being at two different times is really two different beings.

A man will require 5° higher temperature to produce the same effect at 4 o'clock in the morning as he will at 4 o'clock in the afternoon. This is found in practice in

* Extracts from a public introductory lecture by Mr. Arthur H. Barker, B.A., B.Sc., entitled "Some Possibilities in Ventilation: The Practical Application of Recent Discoveries in the Physiology of Ventilation," delivered at University College, Gower Street, W.C., on October 13.

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the House of Commons during all-night sittings. During some of my recent experiments, made for the Ventilation Committee of the House, I have learnt from the attendant that on the occasion of an all-night sitting, in order to avoid complaints of cold, it is necessary to raise the temperature some 3° or 4° in the early hours of the morning, and to maintain that rise until breakfast-time.

The science of ventilation, properly so called, has as its first duty to elucidate all such matters. All of those who have thought on the subject and have had some practical experience have their own theories. The special peculiarity of this branch of engineering is that it is exceedingly difficult to bring any of these theories to a crucial test. It is the first duty of the science to overcome this difficulty. This difficulty is inevitable to some extent, on account of the fact that the criterion of our success is at present very indefinite. The only object we can specify at present is to produce feelings of comfort and healthy climate. We cannot at present lay down the conditions in terms of physics and chemistry. Our knowledge is only general, not exact; qualitative, not quantitative. How can one get a measuring instrument which shall indicate the feeling of comfort, especially having regard to the fact that what is one person's comfort is another's discomfort. To one man a refreshing breeze is another man's ear-acheing draught. A bald-headed man is not on the same basis as a person with a shock of hair. Still more difficult is it to experiment on the effect of different conditions on health.

It seems to me the science must direct itself to the investigation of the fundamental question, which is yet far from being decided, how can we lay down quantitatively in terms of physics and chemistry the objects for which we are striving? It is only recently that it has been borne in upon us that all the old-fashioned theories about carbon dioxide, organic poisons, and the like have been blown to the four winds by such experimentalists as Dr. Leonard Hill and Dr. Haldane.

In place of them we have had placed before us theories of ventilation, according to which its function has practically nothing to do with the elimination of carbon dioxide and the chemical purity of the breathing air. Instead its object is said to be to remove heat from our bodies, water vapour which we have breathed out; in general terms, to prevent us from getting too warm.

That is one group of questions which must be settled definitely—to what extent efficient ventilation consists merely in the adequate removal of heat from our bodies and organic smells and water vapour.

I think we may provisionally accept the theory that temperature, humidity and velocity of air in a room are points of very great importance in the ventilation—of far greater importance, indeed, than its chemical composition—and that one of the chief but not the only reason for this importance is that they determine jointly the rate of heat loss from the body.

Let us now consider the possible different ways of introducing the air.

It may be imagined to be introduced in a vertically upward direction, the fresh air coming in uniformly round the person's feet and being removed at the ceiling. That is a state of things which is described in my book as being pure upward ventilation. There are very few buildings ventilated in this manner. The best known example is the House of Commons. In spite of the enormous volumes of air passing through that Chamber, the bad ventilation is notorious. It is clear that the effect of this method of introducing the air must be to drive all the heat and all the vapour given off from a man's body up into his face, so that his face gets the hottest and most humid air and his feet the coldest and dryest. This condition is the exact opposite of a desirable state of things. I believe that physiologists are all agreed that the rate of loss of heat from the face and hands ought to be far greater than that from the feet. This would seem to indicate that from this point of view downward ventilation, as it is called, is superior, and it has certainly been my experience that well-designed systems of downward ventilation cause less trouble and complaint than do those in which the direction is upwards.

But let us consider the effect of passing this quantity of air vertically in either direction over a man's body. Suppose each man occupies a floor space of 6 square feet. Taking his own mean cross-sectional area as 1 square foot, this leaves 5 square feet for the passage of the air. The mean upward velocity of the air over this space will be about 2½ inches per second. The air in actual contact with his body, being entangled with his clothes, will have a considerably smaller velocity than the mean. The heat from the body may cause a local circuit similar to a vortex ring, but in any case the velocity of the air close to the body can never exceed a very few inches per second if the direction of the ventilation is either upwards or downwards. As this is absolutely insufficient, it is my own belief that neither pure upward nor pure downward ventilation are desirable, and this was the point of the chief criticism of the present ventilating arrangements of the House of Commons which I made recently before the Ventilation Committee. Neither the one nor the other represents Nature's method of ventilating the human body. This is in all cases done by a horizontal velocity of wind. My own view, which I hold very strongly, is that a horizontal velocity must also be produced before indoor ventilation can be regarded as satisfactorily accomplished. For one reason a vertical current does not admit of a sufficiently high rate of heat removal. It does not prevent the heat from stagnating round the body. I believe also that some horizontal velocity of the air is necessary either to stimulate the nerves of the skin or for some other physiological purpose, quite independently of the loss of heat from the body. The reason is, of course, a question of physiology. Of the fact itself I am quite sure as a matter of experience—namely, that a generally satisfactory draughtless ventilation is a contradiction in terms. If it be granted that a satisfactory feeling of freshness cannot be secured without some horizontal movement of the air over the face, the question at once arises, What movement of air is necessary? If we are engaged in the difficult task of ventilating big spaces where a large number of people are crowded, and where the air is very hot and moist, what velocity of air are we to aim at producing? As practical persons, we can only answer this question by laying down that it is to be not greater than a velocity that all people will endure without complaining. We must therefore find by experiment what is the maximum velocity which people will endure. By this means we may conceivably arrive at a certain medium velocity of air of suitable temperature and humidity which should not be perceptible to anyone as an uncomfortable draught, while in all cases it produces a feeling, not of cold, but of refreshment. This is the velocity of air which the ventilating engineer should aim at producing. This velocity must depend to some extent both on the temperature and th humidity of the air. I have no doubt that if such experiments were carried out it would be found that all persons could endure a velocity of air possibly 6 inches per second greater at 65° and 80 per cent. than at 60° and 65 per cent.

Let us then assume the following rule for satisfactory ventilation so far as such can be secured by the control of these three conditions. That the air temperature should be, say, 60° F. and the humidity 65 per cent., and the general horizontal velocity should not be far from 18 inches per second. Present knowledge properly applied would enable us to ensure that the first two of these conditions were maintained—that is to say, that a competent person could design a plan which should deliver any desired supply of air at 60 deg. and 65 per cent. humidity. We have now to inquire how far it is possible to secure the third condition—namely, that the horizontal velocity should not be far removed from 18 inches per second. In what way can this horizontal velocity be secured in practice?

We may imagine air driven over the audience from front to back or from back to front or from one side to the other. My own view is that the best method would be from the front to the back. It is the view of Dr. Hill that whatever the ventilation may be, it ought not to be uniform—that is to say, that if at one time the current is from front to back, at another time it ought to be reversed, and perhaps, if possible, driven occasionally from side to side. This condition would of course greatly complicate the flues and apparatus necessary to produce the result, and it seems to me that as a practical proposition it would be impossible to carry out without very great expense; but it also seems to me that a current in one general direction which would in practice be somewhat variable in velocity and direction might provide by its variations for all the changes called for by Dr. Hill's requirements. It will be clear that if all parts of the room are to be equally satisfactory to inhabit, this velocity must be maintained over the whole of the audience. It will not do to maintain it over a certain portion and keep the rest of the air stagnant. We must have a general sweep of air over the whole. If there are local velocities of greater magnitude, then sensitive persons sitting in the path of these currents will complain of

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HOUSE AT NORTHWOOD: GARDEN FRONT.
Mr. F. M. ELGOOD, F.R.I.B.A., Architect.

PHOTOGRAPH BY BEDFORD LEMERE & CO., 147, STRAND, W.C.

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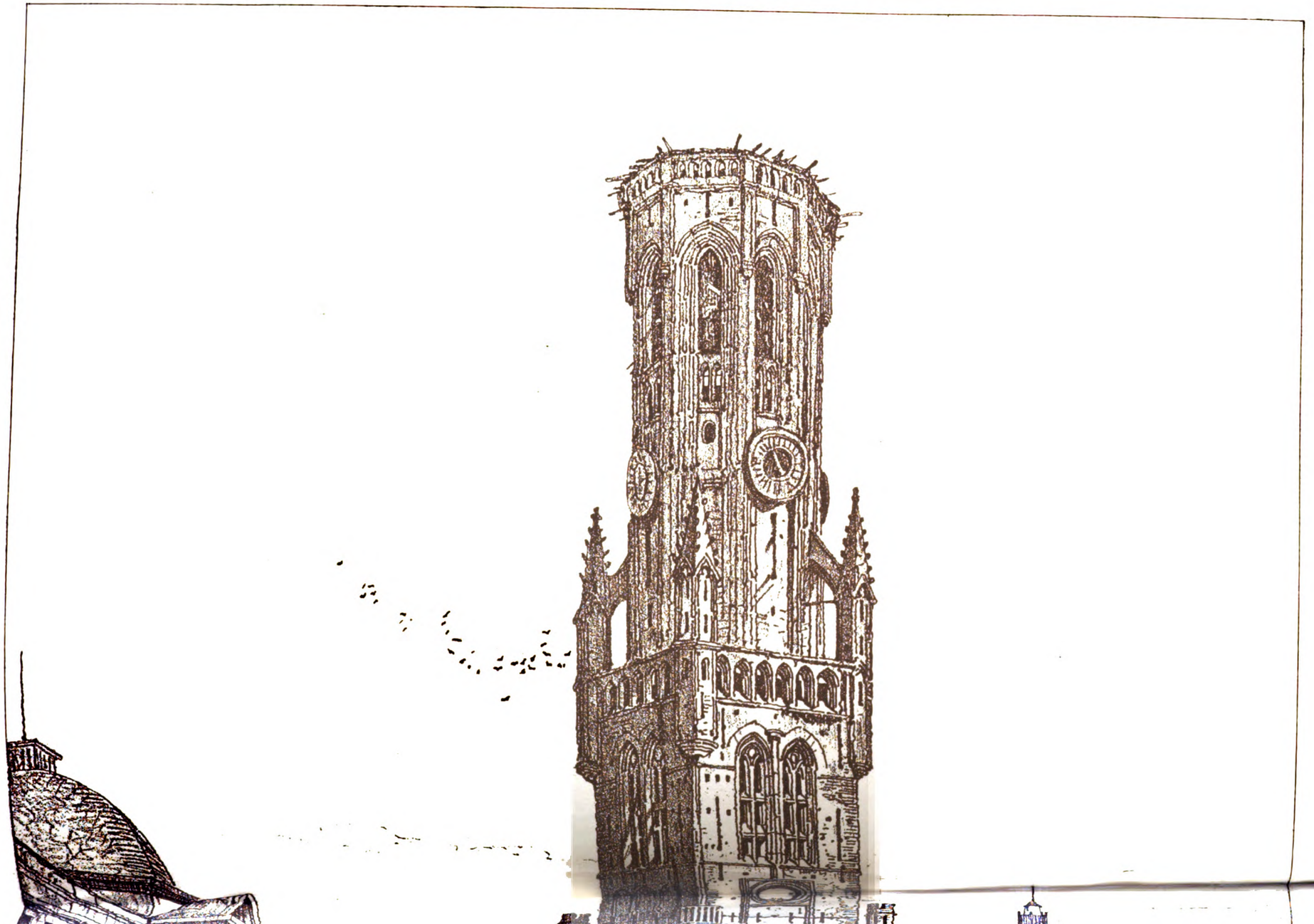
SCREEN IN COLLEGE CHAPEL OF ST. JOHN'S NATIONAL TRAINING COLLEGE, BATTERSEA.

Mr. A. H. RYAN-TENISON, F.R.I.B.A., Architect

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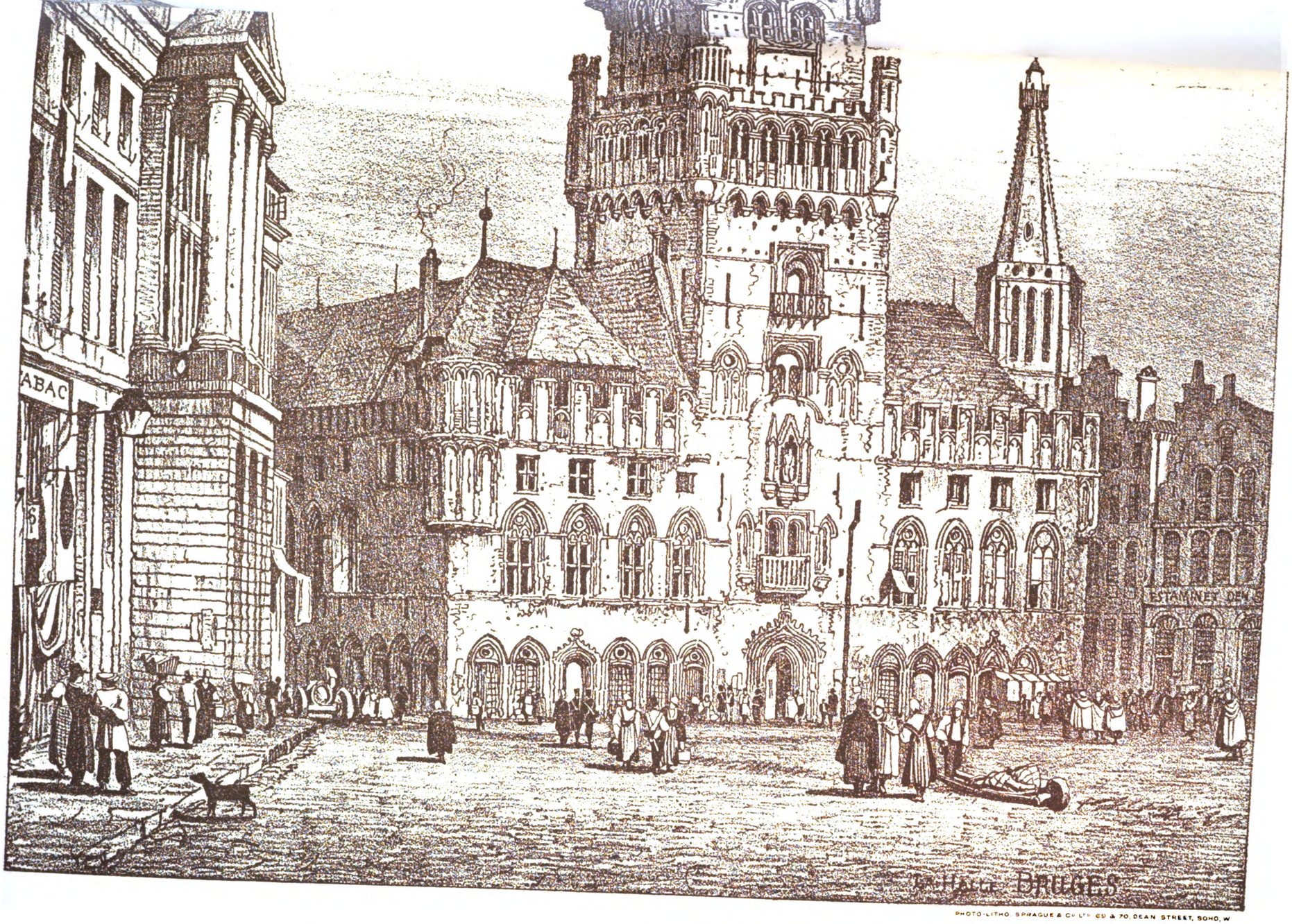


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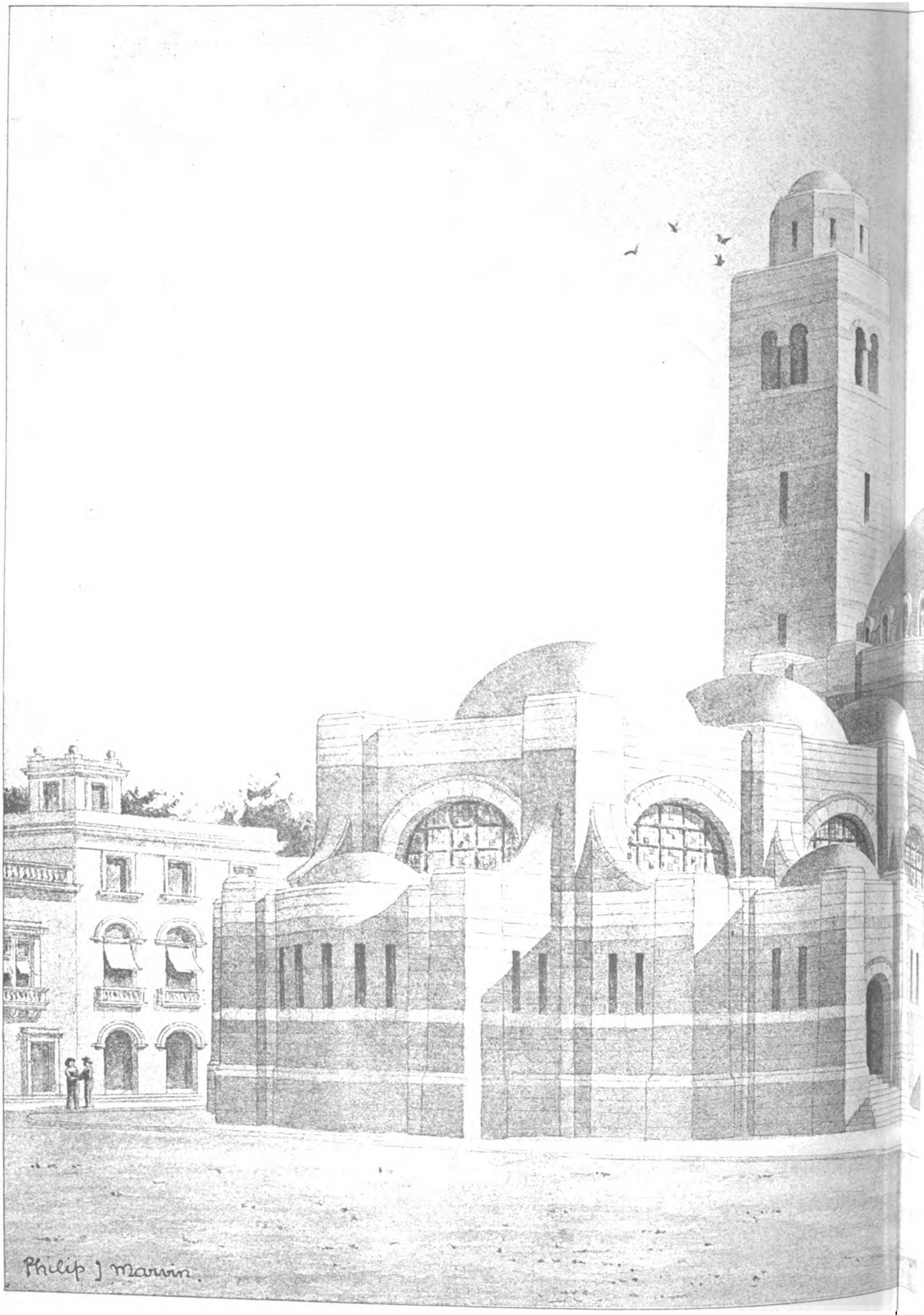
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From "Continental Sketches," by SAMUEL PROUT.

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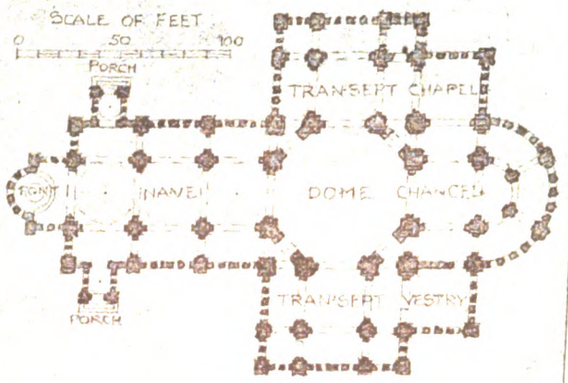
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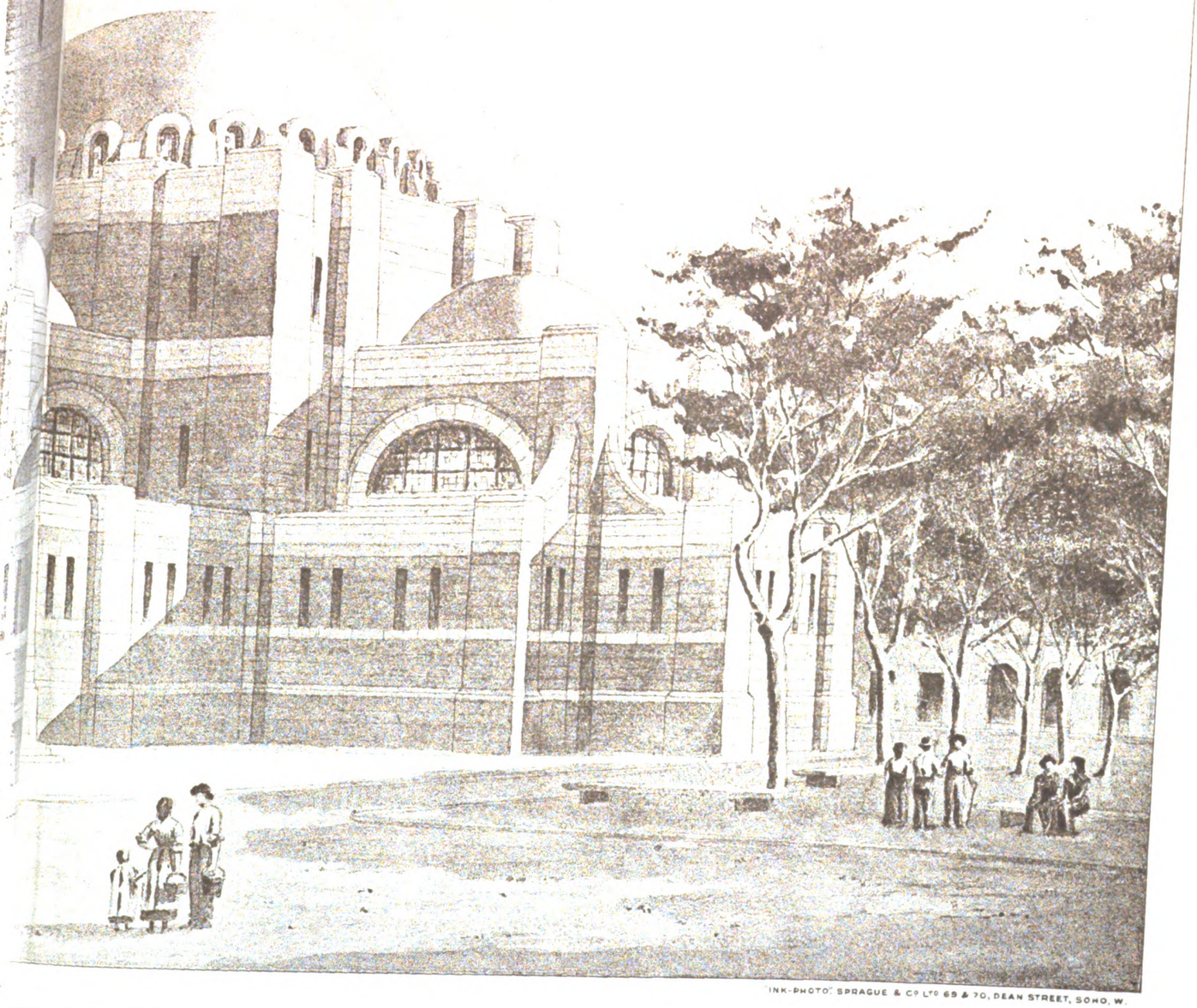


(Royal Academy Exhibition, 1914.)

DESIGN FOR A PUBLIC
Mr. PHILIP J. MARVIN

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HURCH IN MALTA.

VIN, Architect.

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draught; if less, of stuffiness. It is clear that no system of rotating fans fixed in the room itself is admissible. In the first place such fans could not produce a uniform result, and in the second place with our present ideas it is not possible that any audience or any speaker would endure the presence of rotating fans in a large building, which would distract the attention of the audience from the speaker. We are driven, then, to introduce the air through gratings in the wall.

It is a general maxim that fresh or cold air must be introduced at a certain height, say 8 feet or so above the floor. Even on this we are not agreed. There are persons who do not approve of the introduction of air overhead for fear of producing what is called a down draught on people's heads. That there is something in this view cannot be denied. If one chief function of ventilation is the removal of heat and moisture, then it is clear that we can only ventilate a room by introducing air colder and drier than the average air of the room. The body of each person present in the room is continually warming and moistening the air, and this heat and moisture must be dispersed by the introduction of colder and drier and the drawing off of warmer and more moist air. But air which is cold and dry is of necessity heavier than that which is warm and moist. It therefore follows as a mathematical certainty that if cold dry air is introduced overhead it will fall to the floor so soon as it is free and is surrounded by air which is warmer and more moist. In other words, it will produce a down draught. This would only be tolerable if it were practically imperceptible. It could only be imperceptible if it were introduced, not in a mass, but in finely divided streams. This implies that at least a large part of the wall through which it is introduced should consist of gratings. Any air which we introduce overhead must be at such a temperature and humidity that it does not cause a current round people's heads greater than the allowable maximum. We ought therefore to be informed under what precise conditions cold air can safely be introduced overhead. This is a matter quite capable of exact investigation, and we ought not to be compelled to rely on guess work as we are at present.

One of the main effects which the modern theories of ventilation will have in our practice, if they are carried out, will be to produce a sharp difference of opinion between the physiologist and the heating engineer in regard to the method of heating by means of hot radiators and pipes. The main effect which radiators and hot surface generally have on the condition of a room is to raise the temperature of the air, and, worse than this, they make the upper strata of air warmer than the lower.

The modern view which physiologists take of this matter is that the breathing of hot air is distinctly deleterious in that it causes the membranes of the nose to get into such a condition as easily to absorb the germs which produce the disease known as cold in the head and other respiratory diseases. Within limits, the cooler the air breathed, the better it is from the point of view of pure hygiene. Physiologists also take the view that it is extremely undesirable that the temperatures of head-level should be higher than at foot-level, since it causes certain movements of the blood in a contrary direction to what is desirable. It is quite obvious that, since warm air is lighter than cold air, there cannot fail to be a tendency for the temperature at high level to be greater than at low level when the heat is introduced by warming the air. This effect is always found in a radiator-heated room. From this point of view radiator-distributed heat may be regarded as undesirable from the point of view of hygiene. The effect is well known to be influenced very largely by the temperature of the radiator. The higher the temperature of the radiator, the greater is the difference in temperature between the upper and the lower layers of air in the room. The distribution of heat by radiators is so convenient it is impossible as a practical proposition to recommend its abandonment, whether or not it conforms strictly to the requirements of hygiene. It is for this reason very desirable that the necessary amount of heat should be communicated to a room by large radiators at a low temperature, rather than by small radiators at a high temperature. It is also necessary that the feeling of warmth in a room should be properly maintained, but it is also very desirable in the interests of the individual that he should accustom himself to living in a relatively low temperature. The only means whereby this feeling of warmth can be secured, apart from the warming of the air, is by increasing the amount of energy in radiant form passing through the room. This radiant energy is always expensive to maintain, firstly because a large part of the heat given off from a radiant body is always convected heat, and because a large part of that which is given off as radiation at once passes away through the window-glass and the cold walls of a room, and is thereafter largely lost, so far as its effect on the inhabitants is concerned. On the other hand, heat communicated to the air of a room is not only easier to produce, but also remains in the room as heat for a much longer time. This is one reason why an open fire is so extravagant, desirable as it is in many ways. A large part of its heat is sent up the chimney as hot air. That part of the heat which is given off as radiation, unless it impinges on the body of the person in the room, is immediately lost, either by absorption or transmission through the window-glass. It is difficult or impossible to obtain a correct balance sheet of the heat given off when coal is burnt in an open fire, for the reason that the heat radiated is so illusive that it cannot easily be measured without very elaborate appliances. It will be seen therefore that the modern theories of ventilation, which at first sight appear to render possible a reduction in the heat cost of ventilating a room, in reality have a very marked tendency in the opposite direction. They increase to a very large extent the amount of plant, the expense of the plant required, and the increase also in the cost of upkeep. If they are to be carried into practice, they will call for something like a transformation in methods of building, and they will certainly be regarded with acute disfavour by every architect who is interested in the interior appearance of a large room.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.
Crowthorne.—Cookery and Handicraft Centre.
Moulsford.—Council school: new buildings.

BUCKINGHAMSHIRE.
Marsworth.—Three pairs of cottages, for Right Hon. Lord Rothschild.

CHESHIRE.
Altrincham.—Council school, Prince's Road.
Birkenhead.—Council school, Bebington Road.

CORNWALL.
Flushing.—Council school.

DURHAM.
Gateshead.—Council school, King Edward Street. Mr. F. W. Purser, architect, 10 West Street.
New Herrington.—House, stables, and warehouse, Devon Street, for Messrs. Brown & Cairns.
Pelton.—One hundred and thirteen houses, for Chester-le-Street R.D.C. Mr. P. Duffy (of Stanley), contractor.
West Rainton.—Property: additions, for Mr. R. Draper.

ESSEX.
Leyton.—Secondary school for boys.
Thundersley.—Council school for 200 places.
Tilbury.—Upper Ward Council School: teacher's house.

GLOUCESTERSHIRE.
Bristol.—Wesleyan Methodist Hall.

HAMPSHIRE.
Bournemouth.—Stourfield Council School: additional 300 places.
Branch free library, Westbourne.

HERTFORDSHIRE.
Bushey.—Two houses, Koh-i-Noor Avenue, for Mr. Fulks.
Hoddesdon.—Council School, Rye Park: extensions (£1,400). Mr. U. A. Smith (of Hatfield), architect.
Northchurch.—Six cottages (£1,250), for Berkhamsted R.D.C.
Ware.—Vicarage, Canons Park. Messrs. Hitch & Co., architects.

KENT.
Bromley.—Workhouse: additions and alterations (£1,350).
Crayford.—Sewing-machine factory, for Messrs. Vickers, Ltd.

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ENGLAND—*continued.*

KENT—*continued.*

Gravesend.—Lawn Council School, Northfleet: additions.
Plaxtol.—Council school.
Sidcup.—Special subjects building, Foots Cray.
Sutton Valence.—Council school.

LANCASHIRE.

Accrington.—Council school, Moor End, Oswaldtwistle (£9,000).
Bolton.—Business premises, Phœnix Street: alterations, for Messrs. J. Jackson & Sons.
House, Bennett's Lane, for Mr. G. Hargreaves.
Offices, Blackburn Road, for Messrs. J. B. Scholes & Sons.
Petrol store, for Lancashire Cash Bakery Company.
"Corporation" Tavern: alterations, for Messrs. W. Tong & Sons.
Chorley.—Workhouse: additions. Mr. Harrison, architect.
Crompton.—Technical school, High Street. Mr. H. Littler, County architect, 16 Ribblesdale Place, Preston.
Fleetwood.—Council school, Hatfield Avenue (£12,500).

LEICESTERSHIRE.

Hinckley.—Sketchley Dye Works: additions. Mr. W. T. Grewcock, A.R.I.B.A., architect, 8 New Street, Leicester. Mr. G. Greaves, contractor, Mount Road (£2,127).

MIDDLESEX.

Hanwell.—Proposed isolation hospital for fourteen beds. Council surveyor.
Southall.—Lecture hall, Kingston Road. Mr. B. Shadbolt, architect, Victoria Road, Horley.
Stanmore, Great.—Ten cottages, the Glebe Estate, for the Stanmore Cottage Society.

MONMOUTHSHIRE.

Marshfield.—Council School: additions. Mr. J. Bain, architect, County Education Committee's Offices, Newport.
Newport.—Nurses' home, for the B.G. (£5,000). Mr. H. J. Griggs, A.R.I.B.A., architect, Metropolitan Bank Chambers, Commercial Street.

NORFOLK.

Wroxham.—House. Messrs. Morgan & Buckingham, A.R.I.B.A., architects, 1 Upper King Street, Norwich. Mr. W. J. Hannant, contractor, Cattle Market, Norwich (£1,490).

NORTHUMBERLAND.

North Shields.—Isolation hospital (sixty beds) and sanatorium (twenty-four beds), Tynemouth (£30,000 and £2,700 respectively). Borough surveyor.

NOTTINGHAMSHIRE.

Nottingham.—Council school (for 1,400 places), between Harrington and Rolleston Drives.
Council school, Forest Fields (£6,800).

SHROPSHIRE.

Ifton Heath.—Council school: teacher's house.
Prees.—Workmen's dwellings, Sleap.

STAFFORDSHIRE.

Cannock.—R.C. Church, Walsall Road, for 500 sittings (£5,000).
Gnosall.—Council school for 100 places. Mr. T. Godwin (of Hanley), contractor (£1,935).
Knutton.—Wesleyan Church: extension. Mr. G. Hollins, A.R.I.B.A., architect; 4A Market Place, Newcastle. Mr. F. G. Taylor (of Newcastle), contractor.
Newcastle-under-Lyme.—Children's home, for B.G. Mr. G. Snape, architect, 5 Lad Lane.
Tamworth.—St. John's R.C. School.
Wolverhampton.—Grammar School: extensions. Mr. A. E. Painter, architect, 43 Lichfield Street.

SURREY.

Croydon.—Six houses, Lucerne Road, for Mr. A. W. Dawson.
Twelve houses, Woodside Court Road, for Mr. R. B. Manser.
East Molesey.—Infants' Council school (£3,550).

SUSSEX.

Bexhill.—The "Castle" Hotel: alterations. Mr. J. B. Wall, architect, 13 Devonshire Road.
Horsham.—Isolation hospital (£3,000).

WARWICKSHIRE.

Sutton Coldfield.—Boldmere Girls' School: cookery Centre (£700).
Manual training Centres, Trinity Hill and Green Lanes (£550 each).

WESTMORLAND.

Kendal.—The "Rainbow" Hotel: alterations, for Mr. J. Graham.

WORCESTERSHIRE.

Kidderminster.—Children's Home, for the B.G. Messrs. Pritchard & Pritchard, architects, Bank Buildings.

YORKSHIRE.

Bradford.—Council school, Westgate Hill: additions and alterations.
Bradley.—Tuberculosis sanatorium, for Huddersfield T.C.
Carcroft.—Presbyterian church.
Doncaster.—Isolation hospital, near Tickhill Road. Borough surveyor.
Sedbergh.—Twelve cottages, Guldrey, and two cottages, Saltpie, Millthrop (£3,200).
Sheffield.—St. John's Church: additions. Messrs. C. & C. M. Hadfield, architects, 19 St. James's Street.

WALES.

Llanrwst.—"Queen's" Hotel: alterations. Mr. T. Griffith, architect, Gwydyr Ucha.
Pembrey.—Explosives factory, Pembrey Burrows, for Messrs. Nobel.
Penarth.—St. Joseph's Catholic Church (£8,000).
Pontlottyn.—Workmen's Library and Institute: additions. Mr. T. Roderick, architect, Ashbrook House, Aberdare.
Port Talbot.—Hospital. Mr. F. B. Smith, architect, St. Oswald's Chambers. Mr. J. I. Vaughan, contractor (£3,330).

SCOTLAND.

Edinburgh.—Hall, &c., Nos. 7 and 8 Ashley Court, High Street, for the Moray Knox U.F. Church Trustees.
Four shops and four houses at Nos. 18, 22, and 24 Joppa Road, for Messrs. Brown & Grieve.
Glasgow.—Eighteen bungalow cottages, Hazelwood, Dumbreck. Mr. G. Hamilton, builder, Milfort Avenue, Dumbreck.
Shop, offices, &c., No. 365 Great Eastern Road, for Mr. J. Davidson.

IRELAND.

Kilmallock.—People's Hall, for the Co-operative Friendly Society, Ltd. Mr. C. O'Brien (of Dublin), architect.
Mallow.—Fourteen labourers' cottages.
Portrush.—Public Baths and Town Hall: improvements (£5,000). Council surveyor.

PATENT SPECIFICATIONS PUBLISHED OCTOBER 29, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 21,508. Sept. 24, 1913.—S. S. Ready, 135 Kingsbury Road, Gravelly Hill, Birmingham. Valve or cock for heat radiators and the like.

8,075. March 31, 1914.—C. H. Smith, 64 Newton Road, Sparkhill. H. L. Currall, 109 Kingswood Road, Moseley, and the Conformity Lock Company, Ltd., 290 Heneage Street, Birmingham. Locks and latches.

13,112. May 23, 1914.—A. M. Carswell, 11 Meadowpark Street, and Edward Hyder, 43 Aberfeldy Street, Glasgow. Opening sash windows and the like.

21,579. Sept. 24, 1913.—J. M. Macdonald and J. J. Keswick, 3 Lombard Street, E.C. Manufacture of artificial tiles.

21,656. Sept. 25, 1913.—W. D. Menzies, 90 Valkyrie Road, Westcliff-on-Sea; James Menzies, St. George's House, Regent Street; and "S.O.S.," Ltd., 18 St. Swithin's Lane, E.C. Process and apparatus for the treatment of nitrogenous waste, sewage sludge, and the like.

22,277. Oct. 3, 1913.—Christian Korte, 10 Avenue Crescent, Harehills Avenue, Leeds. Briquetting machines.

22,416. Oct. 4, 1913.—A. F. Berry, 27 Woodville Road, Ealing, W. Electric water heating and supply apparatus.

22,438. Oct. 6, 1913.—H. E. Howard, 128 Springfield Road, King's Heath. Coin-actuated door locks for lavatories and the like.

23,432. Oct. 16, 1913.—Dated under International Convention Oct. 17, 1912. F. B. Yingling, 701 Main Street, Hamilton, Ohio, U.S.A. Machines for tiles and the like.

27,194. Nov. 26, 1913.—Joseph Legge, Stafford Street, Willenhall, and H. H. Chilton, Stafford Street, Willenhall. Sliding nozzle locks.

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22,966. Oct. 11, 1913.—H. E. B. Greene, 4 Sefton Drive, Liverpool. Louvres or jalousies.

26,148. Nov. 14, 1913.—James McHardy, 49 The Grove, Hammersmith, W. Constructional casement stays.

27,745. Dec. 2, 1913.—F. H. Wace, 18 Eldon Street, E.C. Stay for casement windows.

29,581. Dec. 23, 1913.—W. J. Blenheim, 3 Grange Road, Egham. Electric bells.

70. Jan. 1, 1914.—Ernest Greenwood, 24 Lee Street, Ravensthorpe, Yorks; Mark Platt, Norwood Cottage, Bradford Road, Oakenshaw, Bradford; and Thos. Bloomfield, Laburnum Cottage, Currier Lane, Ashton-under-Lyne. Domestic firegrates and ranges.

1,085. Jan. 15, 1914.—John Bromet, Golf Links Farm, Tadcaster, York; Frank Thorman, Lucerne Farm, Newton Kyme, near Tadcaster, York; and H. C. Wood, 5 Bromfield Terrace, Tadcaster, York. Centrifugal treatment of sewage and other mixtures of liquids and solids and in apparatus for use in connection therewith.

15,382. June 26, 1914.—Evered & Co., Ltd., Surrey Works, Smethwick, and Stanley Evered. Construction of internally screw cord operated pullies for window openings and the like.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The Development of Madras.

SIR,—Your readers will probably have noticed from a paragraph in your current issue that a valuable collection of maps, models, &c., consigned to the Governor of Madras, was lost in the *Clan Grant* on the sinking of that steamer by the *Emden*. This collection was destined to be exhibited in Madras under the supervision of Professor Patrick Geddes, who has just arrived there at the Governor's invitation to advise as to the development of the city and on social and housing conditions generally.

As the loss of this unique collection handicaps Professor Geddes most seriously in the important work he has undertaken, an effort is being made by those who appreciate the valuable contributions he has made to the problems of civic development to replace its salient features and to forward as soon as possible a collection on a smaller scale, but representative in type of that now lying at the bottom of the Indian Ocean. Through the generosity of the Architects' Professional Employment Committee a staff is now engaged on preparing maps and diagrams, but the only means by which it appears possible to provide for the historic section, comprising numerous old maps, prints, and views of cities in past ages, is by a request to all possessing these to lend or give them to the collection.

I, therefore, on behalf of the Exhibition Emergency Committee, venture to appeal to your readers to co-operate by sending to me at 47 Bedford Square whatever they may be willing to spare that falls within the following category:—Plans, views, or lantern slides illustrating ancient and modern cities, historical buildings, and restorations of cities or important buildings, physical, botanical, and ethnographical maps, charts, diagrams, and pictures. Large panoramic views would be especially suitable. It is hoped that the collection may be completed by November 7.—Yours, &c.,

H. V. LANCHESTER,
Chairman of Emergency Committee.

47 Bedford Square, October 29.

The Art for Schools Association.

SIR,—In these anxious days, when our minds are set upon the heroic efforts of our forces to maintain the honour of Great Britain and to defend the weak from a powerful and unscrupulous enemy, we are nevertheless exhorted and encouraged to carry on "business as usual." Where this is possible it is far the best course to pursue, but there are certain circumstances in which it may become impossible. In spite of the remarkable response by the nation to the appeals made on behalf of the National Relief Fund, the Soldiers' and Sailors' Families' Association, and other excellent organisations immediately connected with the war, there is a real and serious danger that many other organisations, based for years past on the support given to them by voluntary subscriptions, will find this support withdrawn, and their very existence thereby imperilled.

An organisation of this class is the Art for Schools Association, which for more than thirty years has been engaged in providing a selected class of pictures for use in our schoolrooms, especially those of the poorer classes. This work, being educational and not commercial, has been carried on through the Art for Schools Association by arrangement with fine art publishers on terms leaving only a minimum of profit to the Association, which has looked to voluntary subscriptions to defray its working expenses. During the past few years the market has been flooded with prints, especially colour prints, made in Germany and distributed by agencies in London and the provinces at prices below which it is at present impossible to produce and distribute similar prints in this country. School authorities with but scanty funds at their disposal have been led to consider cheapness, rather than selection, as their basis of expenditure. In these trying circumstances the Art for Schools Association, being unable to compete as mere traders, found its work sadly hampered and restricted, and the question of continuing its existence had become one for consideration.

Just at this time, however, appeals began to come in from the Colonies and Overseas Dominions for precisely that help in education which the Art for Schools Association has always desired to provide. This opened out new hopes for the future, and with the help of the Victorian League and other friends the work of the Association has become known in Australia, Canada, South Africa, and elsewhere. An agency had just been opened in South Africa, and the first orders were coming in when the war broke out.

It seems probable that all work and expenditure in this direction will be suspended until the war is over. Meanwhile the Art for Schools Association finds itself in rather serious debt, with a possibility of not being able to recover debts due to the Association itself. Without a helping hand it will hardly be possible for the Association to continue its useful work. A sum of about £400 would relieve the Association at once of debt and enable it to start afresh on the work for the Colonies which had just been inaugurated. It would seem a pity that an Association of so unselfish and deserving a character should perish of starvation when, as other subscription lists show, there is really plenty of money available throughout the Empire. The address of the Art for Schools Association is at the Passmore Edwards Settlement, Tavistock Place, and the Secretary is Miss M. L. Cooper.—Yours, &c.,

LIONEL CUST,
Chairman of Executive Committee,
Art for Schools Association.

October 27.

H.R.H. the Princess Mary's Sailors' and Soldiers' Christmas Fund.

SIR,—For many weeks we have all been greatly concerned for the welfare of the sailors and soldiers who are so gallantly fighting our battles by sea and land. Our first consideration has been to meet their more pressing needs, and I have delayed making known a wish that has long been in my heart for fear of encroaching on other funds, the claims of which have been more urgent.

I want you all now to help me to send a Christmas present from the whole nation to every sailor afloat and every soldier at the Front. On Christmas Eve, when, like the shepherds of old, they keep their watch, doubtless their thoughts will turn to home and to the loved ones left behind, and perhaps, too, they will recall the days when as children themselves they were wont to hang out their stockings, wondering what the morrow had in store.

I am sure that we should all be the happier to feel that we had helped to send our little token of love and sympathy on Christmas morning, something that would be useful and of permanent value, and the making of which may be the means of providing employment in trades adversely affected by the war. Could there be anything more likely to hearten them in their struggle than a present received straight from home on Christmas Day? Please, will you help me?

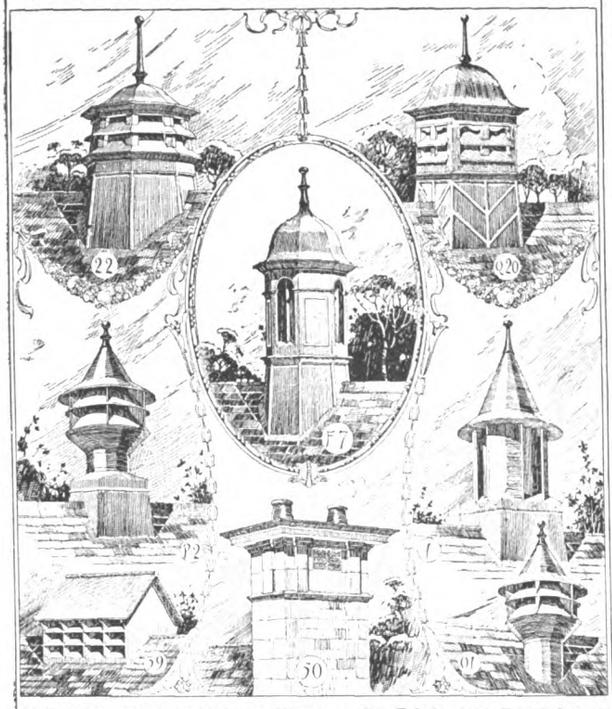
MARY.

Buckingham Palace: October 15, 1914.

[The coupon will be found in our advertisement pages.—ED.]

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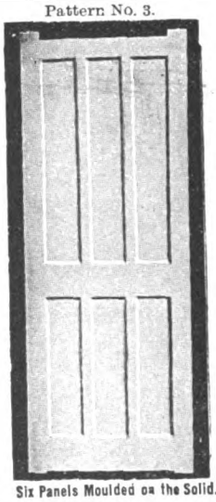
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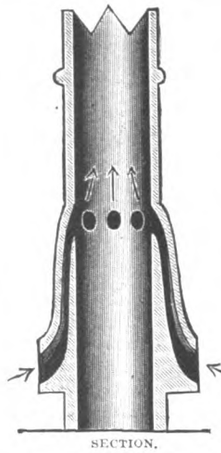
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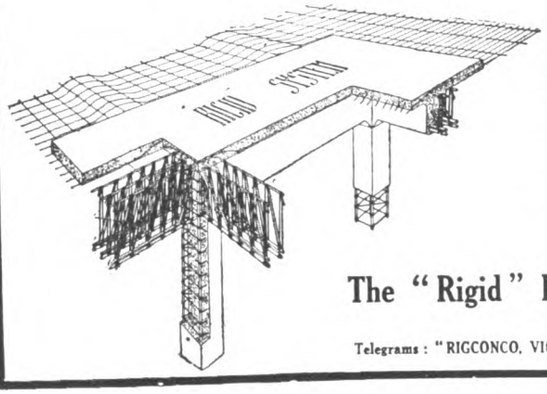
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THE ARCHITECT

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FORTHCOMING EVENTS

Monday, November 16.

Royal Institute of British Architects : Paper entitled "The Future of the Surrey Side," by Mr. Paul Waterhouse, F.R.I.B.A., at 8 P.M.

Tuesday, November 17.

Nottingham and Derby Architectural Society : Paper entitled "Nottingham as I knew it," by Mr. T. W. Hammond.

Thursday, November 19.

Concrete Institute : Presidential Address, by Professor Henry Adams, M.I.C.E., F.S.I., etc., at 7.30 P.M.

LONDON'S ELECTRICITY SUPPLY.

WE have already given an outline of the great scheme by which the London County Council proposes to control and to cheapen the supply of electric current to London. In the further reports which have come before the Council this week more attention is given to the financial aspects of the scheme than in the former report of the Special Committee on London Electricity Supply.

It is vital that the scheme should be financially sound, for the benefit of cheap electricity will accrue to the individual, to one more than to another, but the losses of unsound finance will fall on all the ratepayers. The basis of the whole financial proposition is the rateable value of the area of Greater London which is to be comprised within the operations of the scheme.

As our readers will remember, the essence of the scheme is that a single undertaking shall generate and distribute in bulk electric energy for the whole of Greater London; that private enterprise in the form of a public limited company shall run the undertaking for a limited term of years, controlled to a certain extent by a new public electricity authority constituted *ad hoc*.

It was proposed by the Special Committee that the authority should provide a substantial part of the capital required for new construction work, and the company the remainder; and that the authority should provide the whole of the capital required for the acquisition of existing undertakings. The Committee still consider it an essential part of the scheme that a considerable proportion of the capital of the undertaking should be found by the company. At the same time they now think it might hamper the negotiations between the authority and the company if the scheme laid down the precise purposes for which the authority's capital and the company's capital should be employed. And they accordingly propose that the proportions in which the capital is raised should be a matter of agreement between the authority and the company. This means that the Committee are asking Parliament to give them a blank cheque on the security of London's rateable value.

It must be remembered that it is intended that the interests of the consumers shall be safeguarded by a scale of maximum charges by the company for energy supplied being prescribed in the Bill. This limits the power of the monopoly which the company will enjoy, which would otherwise enable them to fix prices at a figure that should ensure a profit. The company may not succeed in making a profit. On its liquidation the undertaking will revert to the Council, and the loss will be a charge upon the rates.

The maximum prices, it is true, will, it is provided, be revised by the Board of Trade from time to time upon the application of either the authority or the company, and the rebate (if any) to consumers will be fixed yearly. Thus the objection to the unchecked monopoly to be enjoyed by the company is intended to be met. But the undertaking is expected to largely increase the use of electricity by reduction of cost to the extent of a required capital expenditure by the authority for new works of about £5,000,000 for the first period of five years, and further sums thereafter at the rate of something like £1,000,000 a year.

Now it is possible that by mismanagement on the part of the company, by over-capitalisation, or by unwise exercise of its powers of control by the authority, these expectations may not be realised. It may not be possible for the company to earn a satisfactory profit for its shareholders if the maximum price of electricity is fixed too low by the Board of Trade. On the other hand, if the price is fixed sufficiently high to satisfy the company's shareholders, it may nullify the anticipated greater increased demand for electricity.

This increased demand must depend very largely upon the increased adoption of electricity for power purposes, and although the undertaking may possess the monopoly of electricity supply, it will be very far from holding a monopoly of power supply. Steam, gas, and oil will certainly be active and powerful competitors not only on the score of cheapness, but still more on the ground of reliability. A manufacturer will not relish having his machinery stopped because a fuse has blown or there is something wrong at the generating station, and will need to see a very substantial reduction in his power bill to induce him to run a risk of unreliability. We are quite aware that electricity supply is more reliable to-day than it was some years ago, and also that other prime movers are not infallible. But the attainment of constancy is a factor of expense in the supply of electricity.

The Finance Committee of the L.C.C. appear to be satisfied with the preliminary estimates on which the scheme is based, which they say have been prepared with care, and show favourable results from the first, the general accuracy of which they see no reason to question.

It is tolerably certain, however, that this accuracy will be questioned when the Bill comes before Committees of Parliament. There will be opposition, if we are not very much mistaken, by vested interests in coal, gas, and oil, and the views and calculations of the Council's experts will meet adverse analysis by the experts of opponents. There should also be watchful criticism by representatives of ratepayers, by the present supply companies and corporations, by the various local authorities whose areas are included in the scheme.

Hence the Finance Committee rightly direct attention to the probable cost of promoting the Bill in Parliament.

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ENGLISH COTTAGES.—AT COLLEYWESTON, NORTHANTS.

It is proposed that the expenses of promotion shall be defrayed out of the county fund, and that if the Bill is passed they shall be treated as part of the capital costs of the new undertaking, and be refunded to the Council by the electricity authority. In the event of the scheme not receiving the approval of Parliament, the cost will fall upon the Council and the County of London. It is estimated that the cost of promoting the legislation will be approximately about £17,000, including the fees of engineering experts. This sum is apportioned as follows:—From the present time until the second reading stage £5,000, and from that stage onwards £12,000. The Finance Committee evidently anticipate opposition, and we think, rightly so, for they express the opinion that, if the Council decides to seek the proposed powers, the extent to which it should pursue this intention should be influenced by the likelihood of the powers being obtained. They therefore suggest that if the opposition appears to be too strong, the Council should be prepared to drop the scheme at the second reading stage, and thus minimise the loss.

Another important question raised by the Finance Committee is how far the financial conditions of the near future consequent on the war will affect the facilities for raising the necessary new capital and the rate of interest which will have to be paid. While it is improbable that any large amount of new capital will be required for several years, still the conditions likely to prevail in the immediate future must affect the formation of an operating company and the financial arrangements generally. Opinions may differ as to what the market conditions are likely to be at the end of the war, but the effect of the war must be considerable upon the amount of capital forthcoming and the terms on which it could be raised. The calculations have been based upon an average rate of interest all through of 4 per cent. If the rate to be paid should be higher the scheme would apparently be affected in two ways. By increasing the cost of new works the relative value of all existing plant would be raised, and its economical replacement by new plant rendered more difficult. The higher price of money would thus operate to reduce the amount of plant which it would be advantageous to scrap, and would lessen to that extent the amount of new capital which would be required. In so far, however, as fresh capital must be provided in any event—by the existing undertakings if the scheme is dropped, or by the central undertaking if it is put into operation—any increase in the rate of interest would emphasise the desirability of a central scheme, one of the main financial advantages of which is that it should, if properly managed, effect economy of capital.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

Bay windows are features that are still desired by clients, and our present-day students' sympathies for classic work should not prevent the study of them. In order to get the best result such study of old examples of successful effect is essential, and therefore we regret that we have not received more contributions to this subject.

"Rambler" has measured and drawn a two-storeyed bay window in stone from Welton Hall, Northumberland. His work is well done, and includes careful studies of full-size details.

Mr. B. Fraser's subject is a semi-circular bay of two storeys with a porch on the ground floor from Bidston Hall, Wirral, Cheshire, a late Elizabethan House. The subject is quaintly interesting and is well drawn by our contributor.

"Improver" sends good drawings of an elaborate and uncommon example of a bay window from Auckland Castle, Durham, of sixteenth century date.

Thus, although the number of contributions is small, they are all of good quality, and we award a prize of one guinea to "Improver" and half a guinea each to "Rambler" and Mr. B. Fraser.

NOTES AND COMMENTS.

We have before referred to the inception of the Manchester Corporation Committee for the investigation of atmospheric pollution, and we now note that some results obtained by this Committee have been published. Collecting gauges for determining the amount of soot and dust falling during the months of April and May last have been in use and records obtained. The towns from which returns have been received are the following: Birmingham, Exeter, Kingston, Liverpool, London, Malvern, Newcastle-on-Tyne, York, Greenock, Leith, Paisley.

Of the eleven towns and cities from which returns have been received, Birmingham has the highest soot and dust fall, and Malvern the lowest, while London occupies a position in the centre of the list. Arranged in the order of their relative dirtiness and smokiness, these eleven towns and cities rank as follows: Birmingham, Liverpool, Paisley, Newcastle, Kingston-on-Hull, London, Greenock, Exeter, York, Leith, and Malvern.

Expressed in tons per square mile, the soot and dust fall of Birmingham equals 916 tons per annum, that of Liverpool 558 tons, that of London 381 tons, and that of Malvern 68 tons. These totals are based on the assumption that the average fall for the twelve months in these towns and cities will be about the same as that of the

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months of April and May, but it is probable that this average will be exceeded in the larger towns.

The records are not quite scientifically convincing from the fact that in most towns one gauge only has been in use. To arrive at a really satisfactory conclusion several should be placed under observation in each town, for the experience of using three gauges in London shows that considerable variation may occur between the soot and dust fall of one part of a town and another. The direction of the wind and the relative rainfall should also be made subjects of observation.

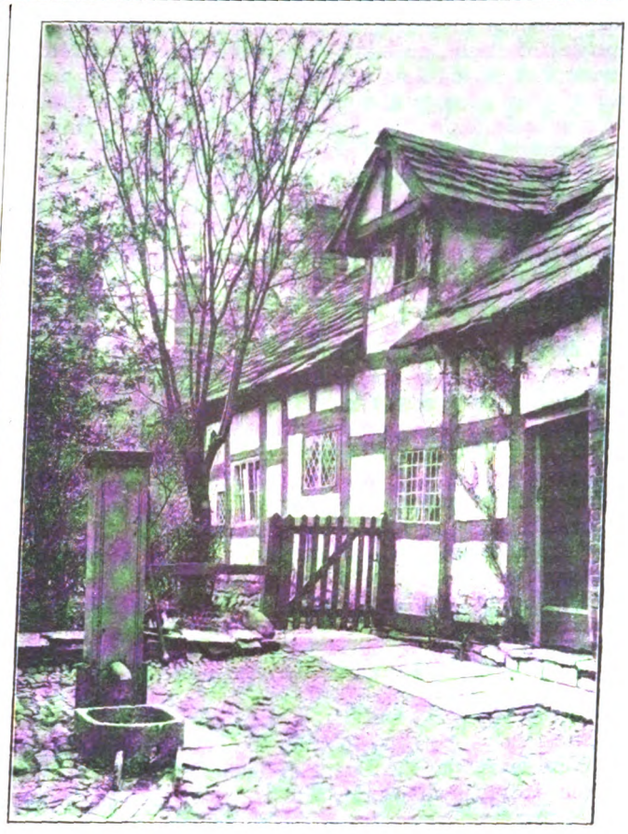
In connection with the restoration of the south porch of the church of St. Mary Redcliffe discovery was made of one of the most interesting pieces of history in connection with the church. In the wall at the north end of the porch can be seen to-day the mark of the fourteenth century vaulting shafts and wall panellings, window niches, and other work of the same period with traces of ancient colour in some parts still discernible, and the fifteenth century vaulting below built into the middle of it all. It became clear that the porch as originally designed was not intended to have a Parvise. It is doubtful if the fourteenth century vaulting was ever completed. Even if it was it had been removed a century later for the formation of the Parvise, and at the same time the stone vaulting now covering the porch was put in. The architects advising the Vestry felt unable to take the responsibility of raising the ancient fifteenth century vault to a position it had never occupied, and suggested that the Committee should obtain further advice before deciding on such a course. Consequently Mr. Harold Brakspear, F.S.A., A.R.I.B.A., was consulted, and he emphasised the view that the old vaulting should be left *in situ*. After examination of the building he formed the opinion that the "Decorated" porch had never been completed, but that the work was stopped by the Black Death which came in 1349, and that when it was resumed in the following century the original idea was abandoned for a porch with a Parvise over it. These counsels prevailed, and the interior of the porch, except for the damage it has suffered through the centuries, remains practically as it was 400 years ago.

The outbreak of war has greatly hampered ordinary private building speculators, and it seems probable that unless new sources of supply are opened up the housing problem is bound to increase in intensity, while considerable unemployment amongst building artisans and labourers may shortly be anticipated. To supplement the activities of local authorities it has been suggested that public utility housing societies be formed—that is, societies registered under the Industrial and Provident Societies Act, and limiting their dividends to a maximum of 5 per cent. Such societies are able to borrow from the Government in accordance with the following arrangements:—

(*a*) Under the Housing, Town Planning, &c., Act, 1909, the Public Works Loan Board may advance up to two-thirds of the value of properties for periods of thirty or forty years. Previous to September 10 last the rates of interest were 3½ and 3¾ per cent. respectively. The rates are now half per cent. higher in each case. These loans are secured by mortgage on the land and buildings.

(*b*) Under Housing (No. 2) Act, 1914, which remains in force for one year only unless re-enacted, the Board of Agriculture in agricultural districts, and the Local Government Board elsewhere are authorised to make any arrangements they like with authorised societies in areas where an undoubted shortage of dwellings exists for the purpose of preventing or mitigating unemployment in the building trades. They may, for example, if they desire, advance nine-tenths of the necessary capital for periods of sixty years at the current rate of interest—that is, 4 per cent.

At the opening meeting of the Manchester section of the Institution of Electrical Engineers, the new chairman, Mr. P. P. Wheelwright, electrical engineer of the Blackburn Corporation, put in a plea for a widening of the scope of the organisation, and also referred to the advantages of the use of electrical energy by railway companies, and also by public authorities for the abatement of the smoke nuisance. Speaking of the present "complete upheaval of all international commerce without precedent in the history of the world," the Chairman said to attempt to calculate its effect upon the markets of the world seemed almost futile, but there was an unparalleled opportunity for this nation to reap permanent benefit. "Already," he said, "some difficulty has been experienced in obtaining manufactured goods which up to the present time have been imported and sold through British agents or companies in this country. Personally, I have found that the deficiency can be met by many existing firms in this country who have tried in the past to obtain their proper share of the market, but unfortunately, owing to prices offered by foreign competitors, have had to abandon the effort. It is to be hoped that one of the results of this war will be the diversion of the German trade into other channels, and it is up to the Englishman to secure from other countries the trade that has hitherto been carried on with Germany. The value of the exports of electrical apparatus from that country alone amounted in 1913 to over £8,000,000 sterling, and of this total more than 20 per cent. represents goods sent to England. I regret to say that the practice of many large purchasers of securing material at the lowest price regardless of quality in many cases has helped the foreign trade to the detriment of the British trader. I deplore, as I am sure you do, that there have been instances where the waiving of the general conditions of contract has made it possible to place large contracts with German firms whose guarantees cannot be compared with those of the British manufacturers.



ENGLISH COTTAGES.—IN CHESHIRE.

"The Thermal Properties of Steam," by G. A. Goodenough, has been issued as Bulletin No. 75 of the Engineering Experiment Station of the University of Illinois. The bulletin presents a critical discussion of the

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experimental investigations of the various thermal properties of steam, an outline of the thermodynamic relations that must be satisfied, and finally the development of a general theory of superheated and saturated steam. As a basis for such a theory the well-known Munich experiments on specific volumes and specific heats are taken and properly correlated through the Clausius relation. The assumed characteristic "equation" for steam is shown to fit the experimental points with extreme accuracy, and other tests are given to show the superiority of the equation over Lunde's equation, which has heretofore been employed. The equation for specific heat gives a corresponding close agreement with the Knoblauch and Mollier points. Simple mathematical manipulation leads to explicit expressions for heat content and entropy, and various tests applied show that the values thus deduced are in excellent agreement with the best experimental evidence. The range of temperature through which the theory appears to be valid extends from 32° to 600° F. for saturated steam. The corresponding upper limit of pressure is above 1,500 lb. per square inch. The result of the investigation is a formulation of the properties of steam for which the following claims may be urged: (1) absolute thermodynamic consistence, (2) extreme accuracy, (3) simplicity, (4) flexibility, (5) great range of validity.

WAR ITEMS.

THE following statement from the pamphlet on Sanitary Ware issued by the Board of Trade Commercial Intelligence Branch shows, for a recent year, the value of sanitary ware exported from Germany and Austria-Hungary, respectively, to all destinations. Figures for the United Kingdom have been added for the purposes of comparison:—

Exported from Germany (1912):

	£
Pipes, sole-tiles, sinks, spouts, closet-basins, &c., of common stoneware; mangers and cattle troughs	57,100
Exported from Austria-Hungary (1913):	
Earthenware for technical and hygienic purposes	9,110
Exported from the United Kingdom (1913):	
Sanitary ware of earthenware, &c. ...	556,400

Of the German exports, sanitary ware to the value of £11,400 was sent to Austria-Hungary and £1,800 to the United Kingdom. Similarly, Austria-Hungary exported £3,960 worth of sanitary ware to Germany, but none to the United Kingdom; while the exports from the United Kingdom to Germany and Austria-Hungary were valued at £28,800 and £3,600 respectively.

Deducting these amounts from the totals shown above, it appears that the effective competition between the products of the three countries in colonial and neutral markets, considered as a whole, was as follows:—

	£
Exported from Germany (1912) ...	43,900
,, ,, Austria-Hungary (1913)	5,150
,, ,, United Kingdom (1913)	524,000

It will be seen from the above statement that the export trade of Germany and Austria-Hungary in sanitary ware is small in comparison with the United Kingdom export trade, the value of the combined German and Austro-Hungarian trade to colonial and neutral markets being less than one-tenth of the value of the United Kingdom trade with those countries. In view of the fact that the German and Austro-Hungarian markets are now closed to British manufacturers, involving a loss of trade valued at about £32,400, British manufacturers will no doubt be desirous of obtaining compensation for their loss of trade in those markets by endeavouring to obtain at least a portion of the trade hitherto done by Germany and Austria-Hungary in colonial and neutral markets. Thus Germany's largest markets in 1912 were Switzerland, Russia, Belgium, United States, Norway, Italy, Netherlands, and France, these eight countries taking goods to the value of £37,000 from Germany. Austria-Hungary's principal markets for these goods in 1913 were Roumania, Serbia, and Switzerland, these three countries taking sanitary ware of Austrian make to the value of, roughly, £5,000.

The maximum value of the export trade in sanitary wares which under present circumstances might be diverted to British manufacturers from their German and Austrian rivals may be summed up as follows:—

(*a*) In the United Kingdom Market—

	£
German Trade (1912)	1,800
Austro-Hungarian Trade (1913) ...	—
Total	£1,800

(*b*) In Colonial and Neutral Markets—

	£
German Trade (1912)	43,900
Austro-Hungarian Trade (1913) ...	5,150
Total	£49,050

Making a grand total of £50,850.

The following were the conditions laid down by the Sanitary Department of the Moscow Town Council for the delivery of earthenware drain pipes:—

1. The earthenware glazed pipes must be machine-made, cut round, with uniform thickness of the sides, and without cracks, blistering, or other defects. The pipes must give a clear sound when struck.

2. The socket ends must be made at the same time as the pipes. Pipes with separately made sockets will not be accepted.

3. The firing of the pipes must be uniform.

4. The glazing must be thin and evenly spread over the interior and exterior of the pipe, and must be smooth, without hollows, raised surfaces, blistering, small cracks, and other defects.

5. The size of the pipes should agree with the plans. Minor variations in the thickness of the sides to the extent of $\frac{1}{8}$ inch and in other measures to the extent of $\frac{1}{4}$ inch may be allowed only on condition that they do not affect the regular laying of the pipes. The pipes must be straight; a deflection from the straightness of the sides must not be more than $\frac{1}{2}$ inch in 3 feet. A deflection of $\frac{1}{2}$ inch in the regular curvature of the cross-section may be permitted.

6. The depth of the socket should be $2\frac{1}{4}$ inches. The interior diameter of the socket must be $\frac{3}{4}$ inch more than the diameter of the pipe. The interior surface of the socket and the corresponding exterior surface of the pipe must be ridged.

7. The body of the pipe at the breach must be close-fitting, little porous, but not translucid. The percentage of absorption of water by the earthenware of the pipe must not exceed 9 per cent. In order to determine this quality of the earthenware a few tiles should be taken, measuring alike about the size of half the palm of the hand, in such a way that the glazing remains on both sides; then they should be dried in an oven at 150° Centigrade, and, after being weighed, put in water. After this tempering they should be taken out of the water and weighed again. In order to determine the suitability of the glazing the whole pipe should be weighed and then immersed in water, and, after soaking in the water for twenty-four hours, should be weighed again. The percentage of absorption by the whole pipe must not exceed 4 per cent.

8. Strong sulphuric, hydrochloric and nitric acids and also a 5 per cent. solution of corrosive potash or ammonia should not have a destructive effect on the glazing or body of the pipe.

In order to determine this quality, tiles to the size of a man's palm of the pipes under test should be half immersed (1) in strong hydrochloric acid, (2) in an equal mixture of strong sulphuric and nitric acids, and (3) in a solution of chloride of lime. Then for a course of two

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weeks watch should be kept for any signs of harm or destruction. The durability of the glazing is further determined by placing the tile to be tested under a glass bell jar, under which at the same time should be placed a vessel of hydrochloric acid. The glazing which in these conditions becomes coated with a white coating and which on rubbing shows that it has become clouded and differently coloured is non-durable.

9. The pipes must support (*a*) an external pressure of 3,600 pounds to every metre of length of the pipe (the socket being included in the resistance test), and (*b*) an internal hydraulic pressure of four atmospheres for 6-inch and 8-inch pipes and of three atmospheres for pipes above 8 inches. The test for the external pressure is carried out to breaking-point, the pipe being subjected to an even pressure along its entire length, and for this purpose the pipe is placed between two wooden planks, about 3½ inches broad, along the top and bottom of the pipe, the pressure being applied through these planks. Any unevenness of the pipe is corrected by lightly inserting wedges of soft wood between the planks and the pipe. In testing the internal pressure to bursting-point, the pipe is closed at its ends with packed discs without longitudinal pressure.

10. In testing pipes in connection with the requirements laid out in paragraphs 7, 8 and 9, .1 per cent. is taken of each delivery of the whole quantity of apparently suitable pipes. If this test proves unsatisfactory, then 1 per cent. is taken of the same lot, and if this again gives unsatisfactory results, the delivery will be rejected. In connection with the other requirements set out in the remaining paragraphs of these conditions, each pipe is tested separately.

Mr. A. Stuart, Registrar of Imports and Exports at Singapore, the correspondent of the Board of Trade for the Straits Settlements, who is now on a visit to England, will attend at the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C., on Tuesday, Wednesday, and Thursday, the 17th, 18th, and 19th November, between the hours of 10 A.M. and 5 P.M., and will be pleased to see by appointment British manufacturers and traders not represented in the Straits Settlements who may desire to consult him regarding trade conditions and openings in that Colony.

Applications for appointments with Mr. Stuart should be made promptly to the Director of the Commercial Intelligence Branch, as above.

THE LATE MR. STOCKDALE HARRISON, SEN., F.R.I.B.A.

We regret to announce the death of Mr. Stockdale Harrison, F.R.I.B.A., of Leicester, which took place on Tuesday in his sixty-ninth year. Mr. Harrison was a member of an old Leicester family. He was articled to the late Mr. James Bird and had practised in his profession in Leicester for over forty years. The greatest achievement of the firm of which he was the head was the winning of the All-England Competition for the designing of the Usher Hall, Edinburgh. On the occasion of the foundation-stone laying of this building Mr. Harrison was presented to the King. He also designed some important local buildings, the De Montfort Hall being among the more recent, while he was also responsible for the Westcotes Free Library, the church at South Wigston, and the church of St. Stephen's, North Evington. Mr. Harrison took no part in public life, but he was at one time President of the Leicester Society of Architects. He was greatly respected by the members of the profession, who sincerely regret his demise.

COMPETITION NEWS.

Brighton.—The Aquarium Committee have been authorised by the Town Council to spend 175 guineas in premiums for designs for the remodelling of the Aquarium and to pay a fee of 50 guineas to an assessor. It is proposed that not more than £22,000 should be spent on the work.

Dunfermline.—The School Board last week discussed the recommendation by the Works Committee that competition for the plans for the proposed school at Rosyth be restricted to architects in the town and parish of Dunfermline. The Chairman dissented from the recommendation on the ground that there were architects in the larger cities who made a speciality of school work. The recommendation of the Committee was adopted by a large majority. The intention is to erect a school capable of accommodating 1,000 pupils or thereby.

Southend-on-Sea.—Members of the Society of Architects are requested not to take part in the Tuberculosis Hospital Competition without first ascertaining from the Secretary that the conditions have been approved by the Society.

ILLUSTRATIONS.

HOUSE AT SHORT HILLS, N.J.

This house was built in 1912 for an American, who wished to reproduce, as far as possible, the old English style of half-timbered farmhouse. The walls are formed of solid framing, 9 in. thick, of chestnut felled on the site, the panels being filled with brick nogging plastered over and whitened. The roofs are covered with English tiles (from the Nyewood Tile Co., of Reigate and Haslemere). The principal rooms are panelled in chestnut, with exposed joists in the ceilings and wide chestnut boards in the floors. Mr. M. H. Baillie Scott, the architect, was assisted in the supervision of the work by Mr. Harold Tatton, of the firm of Messrs. McKim, Mead & White.

HOUSE AT LASKOWICZE, POLAND.

The conditions governing the design of this house were distinctly unusual. The neighbourhood of the site is wild and mountainous, and at times infested with bands of robbers, consequently the owner stipulated that the house should be designed as a miniature fortress capable of defence, with strong walls and tiny windows externally. Hence the grouping of the house round a protected court into which the principal windows open.

This resemblance to mediæval conditions was carried further in the actual process of building, for the bricks and tiles were made on the site, whilst all the timbers were felled locally and roughly adzed into the desired shapes and sizes, the work being done by the owner's estate workmen under his own personal supervision. The design was prepared by Mr. M. H. Baillie Scott.

COMPETITION DESIGN FOR MIDDLETON TOWN HALL.

The building is provided with areas on all sides within the limits of the site measuring in width not less than 12 feet, the northern area adjoining the Rectory grounds being 18 feet wide. The plans show the general lay-out. The principal entrance is placed in the centre of the Long Street front. A porter's room and waiting-room stand on either side of the vestibule. The latter leads to a spacious hall and staircase, which give access to the Council Chamber, committee rooms, *en suite*, with the Mayor's parlour, which is axially placed at one end of the main landing. The Assembly Room occupies a position over the Borough Treasurer's and Collector's offices on the ground floor, and is so arranged as to have an additional entrance.

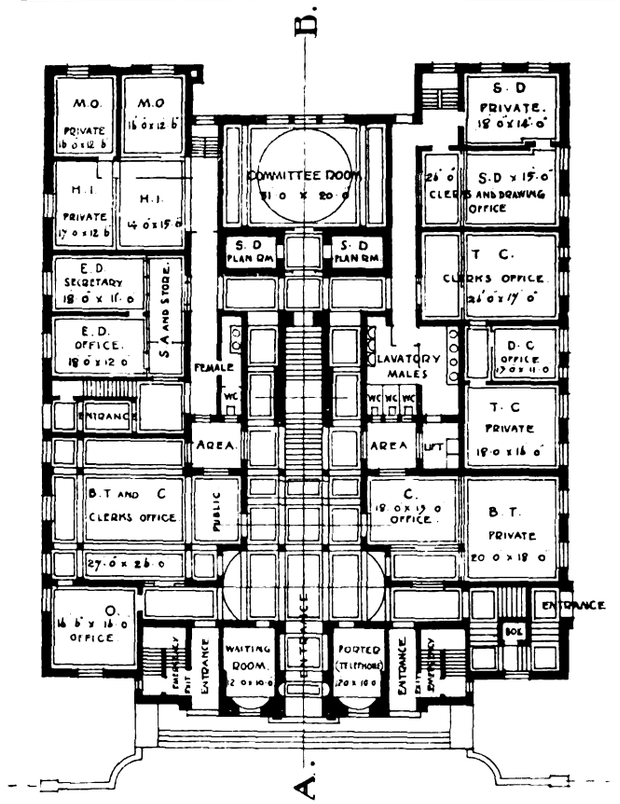
The remaining portion of the ground floor is taken up with the necessary offices for the Town Clerk (conveniently near staircases leading to the upper floor), Medical Officer, Health Inspector, Surveyor, and Education Department, approached from a side entrance. Ample lavatory accommodation is provided on all floors for both sexes.

Mr. M. H. Baillie Scott, architect, will deliver a course of three lectures next January before the Royal Society of Arts on "House Building—Past and Present."

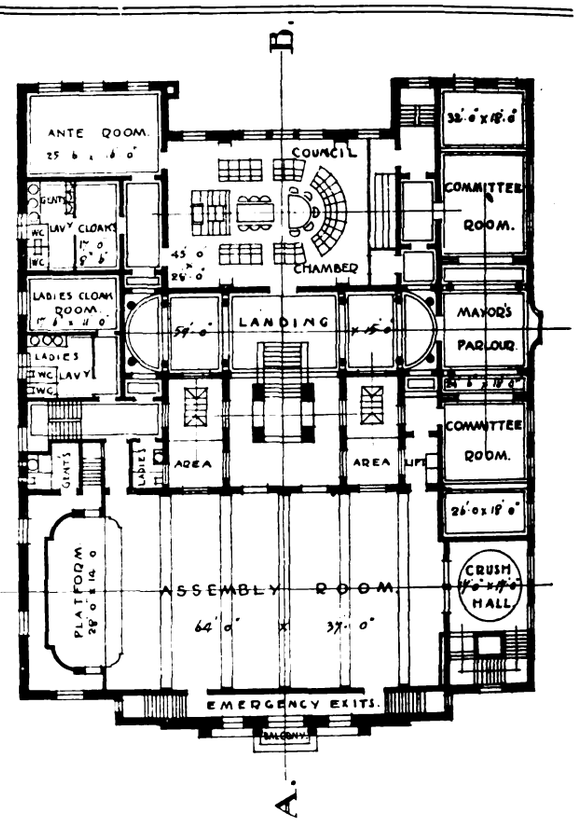
The Greenock Dean of Guild Court during the past year dealt with plans for new buildings, &c., of an estimated value of £103,748, an increase of more than £15,000 over the figure of the preceding twelve months.

Messrs. Balfour & Son have been instructed by the Doncaster Rural Council to prepare plans and specifications for additional lignifying tanks and filters at the Askern Sewage Outfall Works and the Edlington and Warmsworth Sewage Outfall Works. Application is to be made to the Public Works Loan Board for a loan of £4,760 for thirty years, and £240 for fifteen years, for the purpose of extending the sewage outfall works at Conisbrough.

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GROUND PLAN.



FIRST FLOOR PLAN.

COMPETITION DESIGN FOR NEW TOWN HALL, MIDDLETON.—Mr. Geo. E. Jackson, Architect.

The basement is devoted to store-rooms for the various departments, one large strong-room, and a cooking kitchen, caretaker's room, heating chamber, coal and coke stores, &c.

The design was prepared in competition by Mr. Geo. E. Jackson.

SKETCHES IN BELGIUM.

The sketches of towers at Malines and Bruges which we reproduce were made by Mr. Alfred H. Hart, Royal Academy Travelling Student, some years ago.

THE SOCIETY OF ARCHITECTS.

Presidential Address by Mr. E. C. P. Monson, F.R.I.B.A., F.S.I.

You have elected me to the highest post of honour which it is in your power to confer, viz., that of your President, and I thank you most sincerely, for I consider that the greatest compliment anyone can receive is evidence of the confidence and trust of his fellows. I assure you that it will be my earnest endeavour, with the assistance of the other officers, to conduct the affairs of the Society in an efficient manner with a view to preserving untarnished the tradition of my predecessors in office, and at the end of my term to hand over the reins in a condition as good, if not better, than that in which I now receive them.

That being so, a particular onus is laid upon all of us now in authority. I for one fully realise my responsibility, and it will be my one aim to emulate the efforts of those Presidents who have served before me, and I count upon the same hearty co-operation being extended to me as was to them. Then the coming Season will not fail to rank with those which are past and be as successful and beneficial to all; there is however this difference, that whereas in former years matters have gone on in the even tenor of their ways, this year is begirt with all sorts and kinds of changes, with possibilities and probabilities, and fraught with the greatest dangers to the economic life of the country.

The War and Its Bearings on Professional Questions.

The state of war in which we are to-day came so suddenly that, although it found the State from a military point of view fully prepared and able to deal effectively with the situation, the same can hardly be said in regard to matters affecting everyday life in which the different sections of the community are individually concerned in carrying on their profession or business.

Is it possible that we may have become too engrossed in our welfare as individuals and that this war may provide an opportunity of getting as it were outside ourselves, and consequently obtaining a better perspective view of things as they really are, and of restoring that sense of their proper proportion as seen from a different and more independent standpoint?

The building industry, with which the architectural profession is so closely allied, is one of the first to feel the pinch. The state of the money market, the increase in prices, the difficulty of obtaining material, and many other questions arising, naturally affect the building owner, and through him the architect and the contractor, and it can only be by the most careful thought and nursing that contracts now running can be brought to a successful issue. Unfortunately the prices at which jobs have recently been tendered for have been so "cut" that any little unforeseen extra, to say nothing of large ones which naturally make the matter worse, must rapidly eat up the profits and tend to turn what might have been a margin on the right side into a bad loss. Any loss in this direction must naturally fall upon the builder and be a matter of most serious consideration to him, and often cause him some uneasiness. All this coming as it does so soon after the disastrous strike or lock-out in London, and the sectional strikes in many provincial centres, only emphasises the trouble and adds "insult to injury."

Personally I have had no trouble with contracts which were in hand when the war started, and builders are doing their best to get on with them—and I do not anticipate any extras—but I think it is only fair, if the job is genuinely proceeded with, that an extension of time should be allowed to the contractor and that the penalty clauses should not be too strictly adhered to, because of the great difficulty which is being experienced in obtaining some kinds of materials.

In the case of one large contract for which the tender was accepted before the war, but which the contractor would not proceed with owing to the causes mentioned above, the matter was settled and the contract signed upon my clients agreeing to pay an additional sum to cover the extra cost of materials attributable to the war used upon the work over and above the prices prevailing at the date of the tender. Such extra sum in total is not to exceed 5 per cent. of the total cost of the job, and is to be the subject matter of a separate certificate at the completion of the contract, upon ocular proof being demonstrated to me that the extra prices have been actually disbursed.

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In small jobs I have not found that prices have been so materially affected as to make the carrying out of the work impossible or unremunerative. In many cases I am only too sorry to say (for unfortunately I sometimes have been guilty of it myself) when making out the preliminary estimates of the cost of the works to submit to one's client, sufficient notice has not been taken of the increasing stringency of Building Acts and Bye-Laws, and of the enormous advances in the price of labour and the cost of material, which, taken with the rise of insurance premiums for employers' liability, unemployment, health, and such like burdens, all however very useful and necessary in their way, have in the last twenty years or so, in my opinion, raised the price of building work some 40 per cent., and even in the last few years by as much as 15 per cent. to 20 per cent. Consequently the client has been given a false impression of what he would be called upon to pay, and been dissatisfied when the tenders arrived.

I think in a few months' time when timber ports are fully open again, and either the old or new markets are available for the purchase of materials which have inordinately increased in price, that no difficulty will be experienced in building works, for already the cost of some materials which rapidly went up has dropped considerably.

Should however such optimism not be justified, then it will surely be time for H.M. Government to step in and fix a maximum price for the respective materials (as has been done with success in the case of food), so as to prevent grasping merchants and importers from making an inordinate profit and crippling the industry of the country, thereby causing serious unemployment to the detriment of the community at large.

What is our good friend the Chancellor of the Exchequer, the Right Hon. D. Lloyd George, doing? He very generously promised a sum of four million pounds to be spent at once in housing schemes. This could now be readily applied, and would be an enormous help not only to the architects, who, by the by, would only receive a very small part of it, but also to the workers in the building and allied trades. Moreover, it would supply that much-needed provision of housing which is so abundantly required and which is so anxiously being begged for in all parts of the land. I recently saw a notice that housing schemes were to be sparingly prepared, but I cannot think that the promised sum has yet been earmarked or spent, and to my mind the sooner a start is made with it the better. Unfortunately the rate of interest charged by the Public Works Loan Commissioners has been raised from 3½ per cent. to 4 per cent., which, of course, will make a lot of difference in the preparation of housing schemes, and I am afraid in some cases will cause the houses either to be let at rents greater than the people can afford to pay, so as to show an adequate return on the net outlay, or else the places must be let at an uneconomic rent, and then the ratepayers at large must make up the deficiency, which is not a proper course to pursue. I sincerely hope it will be possible to keep the rate of interest down, so as to enable the housing schemes to be proceeded with.

At our last annual dinner Mr. Herbert Samuel, the worthy President of the Local Government Board, promised he would help architects and the building trade, and I venture with all respect to submit that now is the time when it can be done with the greatest effect and most advantage to all concerned, and if by any means he can extract the money from the Treasury it would be a good act done.

A serious question is just being borne in upon contractors as to what is their responsibility in time of war should the buildings they are in charge of be damaged or destroyed by an enemy. Our Honorary Solicitor takes the view that, in the event of a building or addition to a building in course of construction being damaged by the King's enemies, where the contract provides for a fixed sum to be paid upon completion, the loss would fall upon the contractor and not upon the employer, in the absence of express provision to the contrary.

In the event, however, of the contract providing for periodical payments against works performed, the contractors' claim for payment against works performed at the time of the loss would remain valid, and the loss to that extent would fall on the employer.

It appears to me therefore that the contractor and the employer must either take out a policy at Lloyd's or in an insurance office covering his risk, or else trust to Providence. Personally I think this latter would be sufficient cover, because I have faith in our Navy. Of course, there is always a chance of bombs from aircraft, but the contingency, I need not submit, is very remote.

Can architectural or other professional societies do anything to encourage the building industry? Could a representative round-table conference be called of all connected with the industry and its many branches—manufacturers, factors, contractors, building owners, architects, surveyors, engineers, Government departments, and representatives of skilled trades connected therewith? This is a matter well worthy of our consideration, and I shall put it down as soon as possible upon one of our agendas for discussion, so as to obtain the views of the Council thereon before doing anything definite.

Unquestionably the war will have a detrimental effect upon architectural prospects. In many instances jobs have been held up which it was hoped would have been proceeded with, and in some cases for which tenders even had been received. This has been caused mainly I take it owing to the stringency of the money question, to banks stopping overdrafts and sometimes refusing to allow a man to withdraw his own money, thereby causing much dislocation of trade as well as completely upsetting all usual monetary conditions. This condition, however, is improving every day, and shortly we may anticipate that things will become more normal.

One result of the war will, I think, be the impressing upon all concerned the necessity of the most rigid economy and reorganisation of methods of building as well as the standardisation of materials used, though not necessarily so as to make every street of houses appear as if they have been built from a box of bricks or even cast in the same mould. This monotonous effect when it is resorted to is always sure to be depressing and to give dissatisfaction, and what an architect has to aim at is greater elasticity and freedom in his design, but not necessarily a searching after exaggerated effect which unfortunately very often produces monstrosities. It must be remembered that by pleasing the eye in the matter of building one undoubtedly improves the mind.

For the time being, owing to stringency of money matters, building contracts are sure to be held up and difficulties can only be dispelled by the close working together of all concerned, the rearrangement of methods in manufacture, and the strictest economy of architects and quantity surveyors, the latter in particular, in specifying the various articles and the manner in which they are to be employed. It is so easy to make a job come out at an excessive price by filling up the bill of quantities with innumerable labours and small works which could and should be priced in with the article itself. Only by such care being taken can the building owner be encouraged to proceed with new work by being made to feel that every consideration is being shown to him so as to give him the cheapest possible job compatible with good work. Then again the financiers who have been in the habit of taking up large contracts are not at present able to put their money into building works for the reasons I have before mentioned. But apart from the war, this standing aloof unfortunately has been the case for some considerable time, for there is so little margin of profit, sometimes none at all, owing to the greatly increased cost of building, that the risk incurred is not commensurate with the chance of profit, and if building is to go forward it must either be by the reduction of the cost of the work (which is not possible below a given standard), or else when it is done the promoter must receive a greater return for his outlay. This can only be construed into more rent, and it comes to this that if the worker, in whatever branch he may be, is to earn or receive some profit for his work, then the people who pay must receive sufficient money to pay with, and thus the money question goes on in a never ending circle, and it stands to reason that if the cost of making a thing is raised it will cost more to hire or purchase.

The Society is conducting an inquiry into the discrepancies which exist between the cost of building in large foreign cities as compared with that in London. This, however, owing to the war, is held up at the present time, but so soon as something is ready for submission to the members I hope to get it out, as it will undoubtedly give some idea as to what can be done in the matter of standardisation and reorganisation of our methods.

In addition to the stringency of the money proposition and the need of profit on schemes there is the uncertainty as to the policy proposed to be meted out by the Government under the land question, and there has been a considerable

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slump in the investing of moneys in this direction, and it has been difficult to negotiate sales and mortgages. Is it not possible for the Government through the Land Valuation Department to lend money on mortgage on well secured property up to, say, two-thirds of its value at a reasonable rate of interest to be paid back in a stated time? This would get over the difficulties which are now occasioned by the banks feeling a diffidence on the subject and would, moreover, show that the powers that be were willing to help all classes of the community.

Architects' War Committee.

We have at least to thank the war for putting an end, for the time being at any rate, to all questions of architectural politics, and for giving us the unique spectacle of representatives of all sections of the profession working together for the common good.

This is owing to the healing balm of charity. The Architects' War Committee has cemented all factions if so they may be called, the Institute, the Society, the Architectural Association, and the Architects' Benevolent, and here an excellent work is being done. It was a long while before the ponderous machinery suggested could be brought into some sort of shape to make it at all workable. Yet the idea of the Committee is not to give charitable doles, but to assist architects in distress by giving them work to do and so occupy their time and at the same time keep them from thinking, and also make them feel they are still earning their living and not being pauperised. The Society, I am pleased to say, started the Employment Fund by the grant of the sum of one hundred guineas, and the work of administering the money is done by the Professional Employment Committee which meets once a week at 28 Bedford Square, the Society's headquarters.

The Society is represented by several members on the War Committee and on all the Sub-Committees and is taking a very active part in the work.

With regard to subscriptions to the Architects' War Fund, if there should be any of our members who have not yet sent in, it is not too late, and any sums will be thankfully received and gratefully applied.

At the present time there does not appear to be much distress caused by the war amongst architects, but it may be that as the winter comes on the cases will multiply, and distressed architects should not neglect the opportunity of applying to the Employment Committee who are ready and anxious to help all who can show just cause.

It is pleasing to note that all architectural societies, whether affiliated to one another or not, are co-operating with the Architects' War Committee as well as helping locally in their endeavours to relieve the worries and sufferings of their less favoured brethren.

Now as to the Society's general work.

Registration.

I feel I must put this subject in the premier position, as undoubtedly it is the one object for which the Society was founded and is the *raison d'être* of its whole existence. At the present juncture I do not want to labour the point, but it is absolutely necessary that it should be thoroughly understood and kept well in the forefront and in the minds of everybody. Although the Royal Institute of British Architects have stated that for the present they are not proposing to proceed with their new charter scheme, there will undoubtedly come a time when it will once more be upon the *tapis*, and then the fight will be renewed with redoubled vigour. I am pleased to say that steps have been taken by the Society to oppose the charter scheme in its present form, and, in my opinion, there is very little likelihood of it ever coming to fruition, for it is apparent to all right-thinking men that no voluntary system of registration can be any good unless it be taken as a very inadequate preliminary to compulsory registration. What registrationists look for is the closing of the doors to all "quacks" and inefficient and untrained men who only impose upon the public, drawing regular fees, and pretending they can do more than they are able. They are under no restraint and are often found sailing as near the wind as possible and generally belittling the proud position of an architect. All the while registration is delayed more and more of these persons are being unfortunately created and must be dealt with some day, be it by Bill or charter. I appeal to all members of the profession, especially those whose position is assured, for I am sorry to say that it is amongst the ranks of these, the "top-dogs," those who have no necessity to hunt for their daily bread, that the greatest opponents of registration are found. Why cannot they be brought to see that what is required is something for the benefit of the whole community as well as for the architect? It is the public who requires to be protected from the unqualified man, and I look forward to a time when education of the public and the disappearance of the anti-registrationist will unite us all in a common object. During all this dreary time of waiting, however, the Society are pushing their Registration Bill and valuable work is being done in educating professional and public opinion on the matter so that at the proper time I hope we can launch our "craft" and steer it unhesitatingly to a safe haven.

What is there after all to prevent a federation of all architectural societies for purposes of registration, control, and matters affecting the profession generally? Surely this could be done easily and quickly and a united profession could be brought about, leaving every professional body (society, institute, or association) independent as it is now to continue its work of education and the furtherance of purely domestic matters on its own particular lines. The representation of each body on a central council could be arranged in a fair and reasonable manner, so that the interest of all parties would be co-ordinated and secured whether they be members of some professional body or be outside the fold. All these matters are bound to crop up in the near future and will require very much thought and consideration by the Society, and I call on you "to keep your powder dry" for the time when serious action becomes imperative.

Architectural Education.

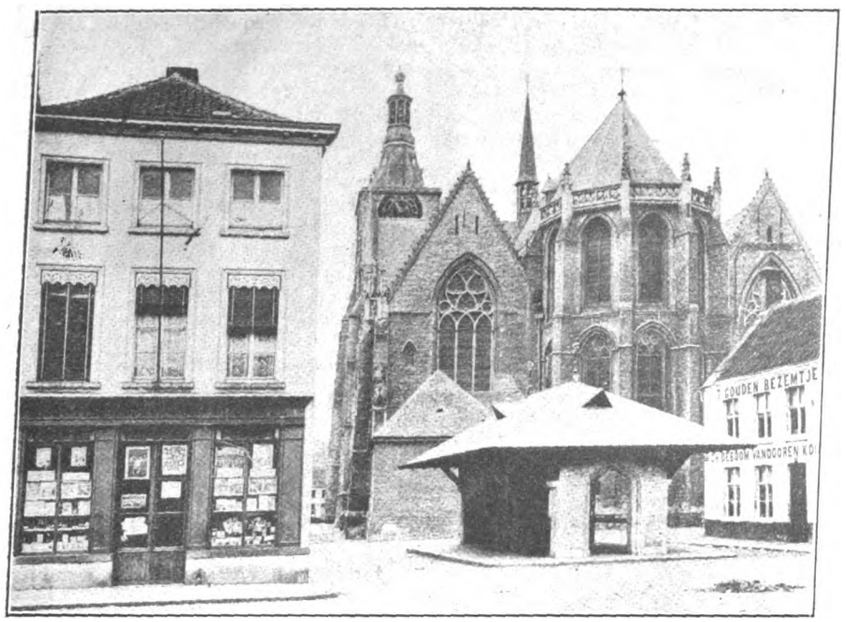
The birth of the Beaux Arts Committee, as every member of the Society knows, was due to the energies of that body. They will also remember how coldly it was received, how every obstacle was placed in its way at first, and how it was at first written down in the professional Press. It is extremely gratifying to feel that the principle is now admitted, and "imitation being the sincerest form of flattery," other teaching bodies are beginning to follow suit. At the present time there is every chance for the Atelier to offer hospitality in architecture to students from France and Belgium whilst the Paris Ateliers are closed, and I understand that steps have been taken to bring the matter to the notice of the Ecole des Beaux Arts.

It cannot be denied that the first Atelier in London has proved an undoubted success, and has been the means of imparting much useful information to students and will be the nucleus of doing an inestimable amount of good to British architects. At the present time, of course, its extension is stopped by the war, but great things are looked for so soon as peace is declared.

Competitions.

In the matter of competitions generally throughout the country doubtless many are conducted on strict and honourable lines, but recently there have been several which do not appear to have been quite fair as regards the conditions imposed, and these have been barred by the Council of the Society. I am pleased to know that arrangements for co-operative action in dealing with unsatisfactory competitions has been come to with the Royal Institute of British Architects which I am sure will be certainly very much better for the competitors and in the end better for the promoters, for nobody willingly, especially corporation and public bodies, likes to be held up to the scorn of their fellow men, or to be made to feel that they have been wanting to "do down" the poor architect and obtain his brains for the benefit of some inferior competitor who, it may be, is to receive the benefit of their advice. Sometimes, however, there may be no ulterior motive with the promoters and the fault of their scheme is that they have not known better. In these cases, however, they are always amended and the competition is conducted in a proper and regular way. In regard to the announcement of the result of a competition, what I would like to suggest is, that instead of unsuccessful competitors receiving the bald notice that their design has been refused, the jury system similar to that in vogue at the Beaux Arts Atelier should be adopted. In these cases there are, say, three jurymen who all agree upon the best design, placing the others in order of merit, or at all events the first three or four, then there is a public criticism of the designs submitted by one of the members of the jury after the award has been made, giving the jury's reason for the selection. A method such as this would surely stop any unfair criticism of partisanship, although it might not be acceptable to some of the people whose drawings might be

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DIXMUDE.--THE CHURCH FROM THE EAST.

badly mauled, but it would be scrupulously fair, and, like the great Bayard's motto, "Sans peur et sans reproche." I only hold this out as a suggestion.

It is, however, very necessary to insist that architects should be loyal to the Society, or whatever architectural body they belong to, and should accept the award without quibbling when it has been made. Further, they should not enter for any competition which is banned; if they do they must understand it is against the "Code of Ethics" which has been adopted by architects, and they fully know, in the latter case, that they have only themselves to blame if they afterwards receive a disciplinary communication from the secretary, which may even involve them in expulsion from the Society, a very unhappy ending probably to an old, valued, and esteemed connection.

New Form of Building Contract.

The Society is well forward with the preparation of a new form of building contract, all others now in use being somewhat antiquated and out of date. The Council has given very much time and thought to the preparation of this document, and when it is finally produced I trust that every member of the Society will use it and make it as popular as possible. It is being settled by an eminent counsel so as to embody all the latest cases which have arisen, and will, I hope, before being issued receive "the benediction" of the master builders and therefore be accepted without demur.

A full-dress debate on this form of contract is to take place at the Society's premises on December 10 next and should prove very interesting.

Studentship Competitions.

Seeing that the war has taken away so many of our students and doubtless will prevent many others from taking advantage of the benefits which we hold out, all studentship competitions have been postponed for the present and the maximum age limit for students been temporarily waived, so that those on active service may not be penalised. Of course, it must be distinctly understood that as soon as matters return to a more or less normal state the ordinary conditions will again become operative.

Architects' War Service and Membership Subscriptions.

I suggest to all architectural bodies, if they have not already done so, and here again the Society has probably been the first mover, that all annual subscriptions from those members who are on war service be waived for the duration of the war, and that their names be retained on the register as full members of the respective bodies. This is the least we can do at the present time in recognising their gallant conduct in taking up arms, not only in defence of their country, but in defence of all that stands for honour and freedom.

I think that unusual consideration in the matter of subscriptions should also be given to other members in genuine cases of distress caused by the war.

In conclusion, may I express a hope that all architects will strongly aim at using only the products of our own country and Colonies, and if what they want is not obtainable there, which seems hardly probable, then that they should give our Allies a chance, but that on no account should an alien enemy secure an order direct or otherwise, for I submit that it is only by patriotism of this kind strictly enforced and carried out can we bring home to the nations who have forced us into this bloody war the fact that we are and can be quite independent of their "kultur" and their productions.

I trust I have not spoken at too great a length, and I earnestly hope that every member of the Society will weather all the trials and difficulties which are now besetting the country and so seriously interfering with the practice of their profession, and that at the end of the session 1914-15 we may all be able to look back and feel that we have each done his duty in the state of life to which it has pleased God to call him:

"Do thy little well, and for thy comfort know,
Great men can do their greatest work no better than just so."

DIXMUDE.

By John A. Randolph.

In spite of Dixmude being an "open town," it has suffered very severely, especially as to its public buildings, by a violent bombardment from German guns merely as an act of vengeance for the check to their arms in the battle between Nieuport and that place against the Allies' and Belgian forces.

It had been much damaged already, in the fighting, but till the bombardment was reported no mention was made about the fate of the great church of St. Nicholas.

Roulers was also treated in the same way, in addition to the burning of one of the main streets of the town to get a clear space for their gun-fire, and forty civilians were shot. It, too, was an "open town."

Dixmude is known for its church and flamboyant rood-loft, said to have been made by Urban Taillebert, who also made the great arch under the tower of Ypres Cathedral.

The church is a very lofty, narrow, Gothic one of great length, with a bold west tower having three belfry-lights of even height on each face below the plain upper storey, and an outside polygonal panelled stair turret up to the belfry-lights on the west face; otherwise the four stages below are plain, save for dividing string-courses and slight blind-tracery panelling.

The choir ends in a five-sided apse, and has a double row of two-light windows, with dripstones, continuous all round the apse, over them. The buttresses are simple,

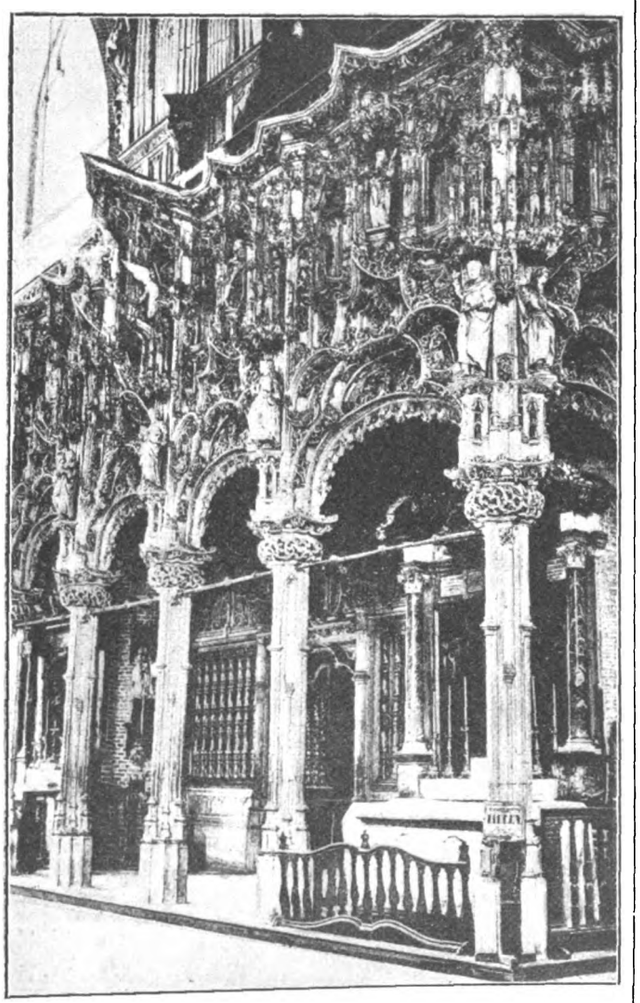
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and, recently topped with pinnacles, a pierced Gothic parapet running round the base of the roof. The choir-aisle gables have east windows of three lights each, with elegant tracery, and are profusely crocketed, as are also the west gables of the nave aisles. The aisle windows are in deep-moulded recesses, and on the south side there is only one buttress between the west end and the transept—after the second window, which is followed by three. There are pinnacles, however, dividing the parapet at each bay. The aisle windows, though well proportioned, do not come very low, the sills being at least 15 feet from the ground.

The font is Renaissance work in marble, with a cover in bronze of 1626, suspended by a large wrought-iron, much-foliated bracket.

The screen is probably the best of the well-known series of great flamboyant ones in Belgium, but is more elaborate than any.

The church has also a painting, in triptych form, of the Birth of Our Lady, and an Adoration of the Three Kings by Jordaens.



DIXMUDE.—ROOD-LOFT IN THE CHURCH.

The Town Hall, alongside the church, and hiding much of it, is by De la Censerie, of Bruges, and the tower is based on that of the Town Hall at St. Nicholas. The original drawings of the mediæval building, which were in the town archives, were found to be missing, when the Conseil wished to restore the structure as first erected.

The town prison has a stepped arcaded gable of four windows wide, and is a private house adapted for the purpose. It is quite dwarfed by the Town Hall alongside.

The Béguinage Chapel is singular, having a short nave with small windows on its west front, and the big roof covering the aisles as well. The choir, of two bays and an apse, buttressed, is loftier, with bell turret at the apex of the gable.

There is a house, also, of the Renaissance period, with octagonal turret surmounted by a flame-shaped bulbous spirelet balanced on a small equilateral roof. The cards of it bear the title, "La Tour St. Georges."

The old residence of the Spanish Governors is simple, with long windows to both floors, and an octagonal turret at the corner rising from a square base extending to a considerable part of its total height.

A passing mention may be made of the little church of St. Roch, also known as La Chapelle du Saint Esprit, with a west window of three lights and plate tracery and three side windows of two lights under a shallow arcading under the cornice. The bell turret on the west gable strikes us as being clumsy.

In the neighbourhood of the town is the noteworthy steeple—a lofty tower and crocketed spire—of Oud-Stuyvekens, but the church has vanished. The steeple is very similar to Rumbeke and Boesinghe, and a few others in that part of Flanders.

The streets, as a rule, are irregular and narrow, and the town did not impress us.

THE SURVEYORS' INSTITUTION.*

On no previous occasion, since the foundation of the Institution, has it fallen to the lot of your President to deliver his opening address in circumstances such as those which now surround us and fill our every thought. I need, therefore, offer no apology for saying a few words about the great European war in which our country has been involved.

It is pleasing to me, as the representative for the time being of our profession, to see that surveyors have not lagged behind other Englishmen in their eagerness to serve their country. Many members of the Institution serving in Territorial regiments were mobilised on the outbreak of the war, and many others have enlisted in the various corps which have since been enrolled. It is possible that more and more men may be required until our reserves are almost depleted, but I feel sure that employers have recognised the necessities of the position, and will do everything in their power to remove obstacles from the way of their assistants who may wish to serve.

But "they also serve who only stand and wait," and a heavy task is laid upon those of us who through age or other reason are unable to take an active part in the defence of our country. The distress which must inevitably be caused by a state of war, and especially by a war making so great a demand upon our resources, will be deep-rooted and wide-spread, and must, I fear, be felt in no class of life more acutely than among the professional classes. To those of our brethren who most feel the pinch, all who are in a position to do so must hold out the hand of friendship and aid them to tide over the period of difficulty.

With these brief words on the subject in all our thoughts, I will turn to more personal matters.

My two eminent predecessors were in a position to speak with great authority on the rural problems which have become increasingly urgent during the past decade; but my own work lies in urban areas, and I propose therefore to confine my remarks more particularly to the wider principles of those problems which confront those responsible for the better government of our teeming centres of population—a subject not less urgent than the former.

Of the many questions to which urban surveyors must devote their thoughts, the housing of our working population is the most important, and in many ways the most difficult. Its complications and its urgency have been immensely added to by the great increase in population which has taken place even during the thirty-five years which have elapsed since I first entered my father's office. In the area of Greater London, for instance, the population has sprung from 4,766,661 in 1881 to 7,252,963 in 1911, a total increase of 2,486,302, of which 1,793,638 is found in the outer ring. The increase of 692,644 found within the administrative county alone is, as might be expected, a good deal less, for the unbuilt-upon area within that portion naturally did not permit any considerable development. Nor is it London only which has shown this remarkable power of reproduction; the industrial areas have held their own, as indeed have purely residential districts such as those which adjoin the Metropolis. The four Home

* Extracts from the opening address by Mr. Howard Chatfeild Clarke (President), read at the Ordinary General Meeting on November 9.

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Counties—Middlesex, Essex, Kent, and Surrey—for example, have increased their population by over one and a half millions in twenty years.

The two main agencies for providing housing accommodation for the working classes are the private investor and the local authority, while between these come charitable bodies, public utility and similar societies, and co-partnership associations. But by far the largest number of the houses of this class which are built are provided by private enterprise, a recent estimate placing the proportion as high as 99 per cent. It is therefore important to consider whether it is likely that the needs of the community will continue to be met through this agency, and on this question the following figures from the Inland Revenue Commissioners' reports would seem to throw some light:—

Year.	Separate Tenement Dwellings.	Houses of Annual Values— Under £10.	£10 and under £15.	£15 and under £20.	Total.	Increase over previous Year.
		£	£	£		
1903-04 ...	39,773	3,122,330	1,813,146	853,287	5,833,536	41,549*
1904-05 ...	54,608	3,134,251	1,856,200	889,682	5,934,741	101,205
1905-06 ...	58,737	3,148,779	1,915,248	924,915	6,047,579	112,838
1906-07 ...	62,834	3,155,920	1 961,300	947,993	6,128,050	80,471
1907-08† ...	65,000	3,163,000	2,005,000	975,000	6,208,000	79,950
1908-09 ...	65,188	3,169,157	2,044,825	1,002,090	6,281,250	73,250
1909-10 ...	72,044	3,175,388	2,039,449	1,031,560	6,368,441	87,181
1910-11 ...	74,656	3,210,221	2,103,820	960,395	6,379,092	10,651*
1911-12 ...	79,750	3,242,347	2,151,552	985,608	6,459.257	80,165
1912-13 ...	80,955	3,240,804	2,179,393	1,004,350	6,505,507	46,250

* During the years 1903-4 and 1910-11 the periodical revaluation of houses was made, which resulted in a number of houses, previously assessed at under £2), being placed in a higher category. The marked drop in those years must in part be attributed to that cause.

† Approximate figures.

These figures show that during the past ten years the number of dwelling-houses under £20 in annual value erected yearly has tended to decrease, although with the increase in the population remaining normal one might have expected a growth in the demand for houses parallel with the improvement in the general standard of living and better knowledge of sanitation, which should result in a reduction in the average number of persons per room. It would seem, therefore, that this form of investment is proving less attractive to the ordinary investor than was formerly the case, and a number of reasons for this are not difficult to find. In the first place there is the effect of the 1910 Finance Act, which, it cannot be denied, has been considerable, in that, rightly or wrongly, builders, mortgagees, and others have been unsettled by the fear that their profits or their security might be adversely affected. It would seem probable that the great falling-off in the number of houses built during 1910-11, although partly due to the reason mentioned in the footnote to the table, must to a large extent be attributed to the feeling that, by the operation of the statute, this class of building had become more speculative.

This deterioration in the safety of the investment has been accentuated by the increase in the cost of building, which has been particularly noticeable during the ten years under review. Mr. Littler, the architect to the Lancashire County Council, in an official report issued rather more than a year ago, stated as a result of special inquiries from firms employed by his Council, that the average rise in building materials during the past three years was as follows:—

	Increase Per Cent
Labour ... ... 10 per cent. / National Insurance 2 to 3½ per cent.	12½
Common bricks	14
Facing bricks	9
Glazed bricks	12
Lime	10
Portland cement	22
Rolled steel joists	20
Drain pipes	41½
Stone	10
Timber	30
Glazed ironmongery	18
Slates	7½
Lead	3
Cast-iron goods	60
Copper goods	20
Brass work	23
Wrought-iron piping	30
Glass	30
White lead	30

The report went on to say: "In addition to the above there are those branches of the trade which are usually executed by 'Specialists,' such as heating, ventilating, railings, sanitary goods, &c. Generally speaking, I find that labour in connection with those branches has increased about 10 per cent., whilst the cost of cast-iron hot-water pipes has increased 50 per cent., ventilating materials 15 per cent., wrought-iron work 25 per cent., tiling 20 per cent., grates, &c., 42½ per cent., and sanitary goods 10 per cent."

Nor will this increase in the cost of building be lessened by strikes and lock-outs, such as those which we in London had to deplore for so many months prior to the outbreak of war.

A third influence affecting the flow of capital for housing purposes is the cost of money. Ten years ago Consols could only be purchased to pay about £2 16*s.* per cent. and the return from other securities was in proportion. An investment in house property paying a net 5 or 6 per cent. therefore compared favourably with other investments of equal safety, but just prior to the closing of the Stock Exchange Consols could be purchased to pay nearly £3 10*s.* per cent., while many attractive Canadian and other issues paying a fairly safe 5 per cent. had been placed upon the market. It is not difficult to understand why these, with their freedom from worry, their regular payment of interest, and their return of capital on a certain date, should absorb a good deal of capital which formerly went to the erection of houses.

And there is another direction in which building is affected by dear money. Housing accommodation for the working classes has in the past been provided largely by the speculative builder, who, in spite of the abuse which has often been showered upon him, has in fact carried out a useful public work in this direction. But as a rule his capital is small, and his operations have been carried on mainly by means of borrowed money, with the result that the interest he has to pay has a marked effect, in the first place on the price he must obtain for the houses he builds, and in the second on the rent at which they can be let. For example, an additional 1 per cent. per annum on the capital employed in the erection of a house costing £250, inclusive of land, proportion of road construction and sewering, would necessitate an additional 1*s.* per week in rent, and unless that extra sum were likely to be obtained without much difficulty there would be a strong inducement for the capital to discover another outlet.

There is also the undoubted effect which the great and continued increase in the burden of the rates must exercise upon building. Although the rateable value of property in England and Wales has expanded by 25.599 per cent. during the past fifteen years, the total rates have grown by 76.488 per cent., the increase in the £ being 1.613*s.*

I do not include the cost of the site among the more important factors influencing building operations, as except in central positions, it is comparatively small, and has far less effect upon the rent than is often supposed. The following table shows the amount payable weekly as rent in respect of land worth £100 per acre freehold, according to the density of its development. The sums which would be similarly payable in respect of land of greater or less value can readily be calculated.

Houses per Acre	10	20	30	40
	d.	*d.*	*d.*	*d.*
Return payable weekly in rent at 5 per cent.	2·308	1·154	0·769	0·577

Nor as a rule is any difficulty experienced by those wishing to provide housing accommodation in finding suitable land for the purpose at reasonable rates.

Apart from a small minority holding very advanced views, all would, I think, prefer to see the provision of houses for our people undertaken by private enterprise, but few would agree that an attempt should be made to attract capital to this class of investment by reducing the standard of sanitation and amenity which has now been reached. There is now a tendency to place greater and greater responsibilities upon the builders and owners of house property, and while it is impossible to say that this should not be done, a word of warning may not be out of place to the effect that such restrictions should be fair, reasonable, and free from any suspicion of faddism. Private capital is a valuable ally, but at the same time it is one which is easily frightened; it is therefore worth an effort to secure it on the side of those who wish to see the people well housed.

Every facility should be given for introducing new and cheaper methods of construction, and I am inclined to think that, in the less closely populated districts at any rate, so long as habitations are warm, dry, well ventilated, and sanitary, the requirements of the local authority should

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be looked upon as being fulfilled; and that too great weight should not be attached to durability of structure. Houses, especially those occupied by the working classes, quickly become out of date, and, subject to the above essentials, it is desirable that it should be possible to "scrap" them when that time arrives, without too great a loss of capital.

The increase in the population of England and Wales between 1901 and 1911 was just over three and a half million persons, or a yearly average of 350,000. To meet this about 80,000 additional houses would be required annually, without counting the number required to replace those pulled down or condemned, and an expenditure of something like twenty millions sterling would be entailed. The magnitude of these figures clearly indicates how important it is to look at the matter in a business light, and to avoid doing anything unessential to the real well-being of the community, which might direct the flow of private capital towards other investments.

So far as it is possible to foresee, it is unlikely that any real difficulty will arise in this direction with regard to the provision of the better class of working men's dwellings, capable of being let at rents which, although varying in amount in different towns, pay a reasonable interest on the outlay. The real difficulty exists in providing house-room, up to modern sanitary standards, for those who cannot pay rents fulfilling that requirement; and as it is an essential that the people shall be housed, if one source of supply fails another must take its place.

Under the Labouring Classes Lodging House Act, 1851, local authorities were first permitted to purchase, lease, or erect lodging-houses for the working classes, and legislation has from time to time added to these powers until we come to the Housing of the Working Classes Acts, 1890 to 1903, and the Housing, Town Planning, &c., Act, 1909. Before attempting to refer to the provisions contained in these measures I should like strongly to urge their consolidation. The modern method of legislation by reference may have advantages when a Bill is being passed through Parliament, but the continued difficulty of interpreting a number of unrepealed measures all dealing with the same subject, which is thereby thrown upon those concerned in their administration, far outweighs the earlier and temporary advantage.

Mr. Chatfeild Clarke then dealt in more detail with the activity of the various local authorities in the matter of housing.

In 1910 £107,132 was sanctioned for the erection of 527 houses by the local authorities, while in the first nine months of the present year £797,334 has been sanctioned for the erection of 3,122 houses and one lodging-house by 147 local authorities.

There has also been a noticeable increase in the activity of semi-charitable bodies, public utility and similar societies, and co-partnership associations, in the provision of housing accommodation. Section 67 of the 1890 Act empowers the Public Works Loan Commissioners to grant loans to such bodies for the purpose of encouraging the erection of workmen's dwellings. The period for repayment is limited to forty years, and the amount to be advanced, which was originally restricted to one-half of the value of the interest in land and dwellings to be mortgaged, has now been increased to two-thirds by Section 4 of the 1909 Act, provided that the rules of the Society prohibit the payment of interest or dividends at a rate exceeding 5 per cent. per annum. Since 1890 upwards of one and a half millions sterling have been advanced by the Commissioners in this manner, and of this sum nearly one million pounds have been loaned since the 1909 Act came into operation.

Any attempt to deal, however briefly, with the position of public authorities with regard to housing would be incomplete without some reference to the two Housing Acts which were passed this autumn, subsequent to the declaration of war. The first was an attempt to meet one of the difficulties referred to by the late Mr. Edward Woolley in his presidential address a year ago, and enables the Local Government Board to make arrangements with any authorised society to provide and maintain dwellings, gardens, &c., for the convenience of persons employed by the Government, where sufficient other accommodation is not available. And the second authorises the Board of Agriculture in agricultural districts, and the Local Government Board in other areas, for the space of one year from the passing of the Act, to make arrangements with local authorities or authorised societies for the provision, maintenance, improvement, and management of dwellings and gardens and other works or buildings for the convenience of persons belonging to the working classes; and the Treasury are empowered to issue sums not exceeding in the aggregate four millions sterling for the purpose of meeting capital expenditure under the Act.

It was the intention of the Government that this sum of money should be utilised for the joint purposes of providing and improving housing accommodation for the working classes, and of preventing or mitigating unemployment in the building trades. Those of us who are in touch with the building industry are aware how immediately and seriously it will be affected by the war, and there will therefore, I think, be little difference of opinion as to the wisdom of this action on the part of the Government, by which large sums will be made available for works of construction of permanent value which might otherwise have been employed merely in temporary relief.

It is, I am inclined to think, to the solution of the traffic problem that we must look for the removal of many of the difficulties surrounding the former.

Much has been done of late by the development of tramways, railways (both steam and electric), and particularly motor omnibuses, to enable persons to travel with reasonable facility from one part to another of the great towns, but the congestion of the streets has not thereby been relieved; indeed, in some cases where slow and quick traffic both make use of the same routes the difficulty has been increased. Bold schemes for future street widenings and for cutting additional wide new thoroughfares are often formulated, and would not lack support were it not for the financial questions which they raise; but it is clear that, however much we might wish to see them carried out, the cost would in some cases be prohibitive, while in others it could only be borne by dividing comprehensive schemes into parts and dealing with a portion only at a time.

The inconvenience which we are suffering through lack of foresight in town-planning in the past, and the heavy burden entailed in the attempt to counteract it, should make us peculiarly careful to do what we can to prevent a similar reproach being levelled against us by future generations; and the Town Planning Act of 1909 has put an instrument into our hands. Doubtless you are aware that a year ago the Council of this Institution, in conjunction with that of the Royal Institute of British Architects, by means of a representative deputation, impressed upon the Prime Minister and the President of the Local Government Board the supreme importance of making use of the provisions of that measure to deal with the question of the arterial roads of the future London, before it became too late through the quickly proceeding development of the present outskirts.

I am happy to say that due weight was given to the arguments then advanced, the area of Greater London being divided into six divisions, and a committee, on which the Institution is represented, being set up in connection with each, to consider and advise upon the necessities of each section, and to co-ordinate them with the requirements of the whole. I have no doubt that when the inquiries entrusted to these committees have been made the subject of a finished report, the work which they have done will prove of value not only within the district reported upon, but, as an example of what might be done, within every district in the country presenting similar problems.

LALEHAM AND LITTLETON.*

By J. Charles Bourne.

The parish of Laleham is included in the Spelthorne Hundred of Middlesex, and lies on level ground between the main road from Staines to Kingston and the River Thames. It is long and wedge-shaped, the point of the wedge lying towards the south and the River Thames forming almost the entire western boundary. There is no railway line in the parish, the nearest stations being Staines and Shepperton.

Laleham is mentioned as one of the four appurtenances of Staines in the Charter of Edward the Confessor granting and confirming lands to the Abbey of Westminster. At the time of the Domesday Survey the Abbey still held Staines, and four unnamed berewicks; probably Laleham was one of the latter.

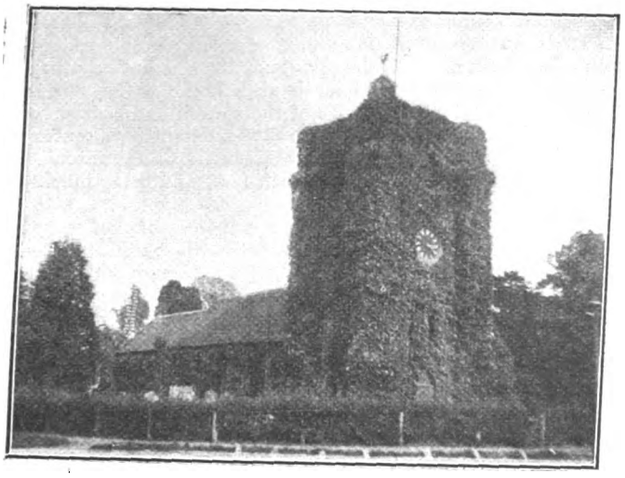
The Abbey continued to hold until the Dissolution, when the manor was ceded to the King, who caused it to be annexed to the newly-formed honour of Hampton Court. It remained in the hands of the King throughout the sixteenth

* Read at a meeting of the Upper Norwood Athenæum.

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century. In 1612 it was granted to one Henry Spiller, and after passing through the hands of various owners by inheritance or conveyance, it became in 1768 the property of Sir James Lowther, of Whitehaven, afterwards created Earl of Lonsdale. Upon his death in 1802 it was bought by Richard, the second Earl of Lucan. The manor house, which was built by this earl, stands to the south of the village, and close to the river, in well-timbered grounds of about 23 acres. The building has no architectural merit, but is of some historical interest, inasmuch as Donna Maria, Queen of Portugal, lived here for some time during her minority from 1829 onwards.

The third Earl of Lucan made his name famous in the annals of the Crimea, leading the heavy cavalry brigade in the charge at Balaclava. Laleham is now mourning the death of the fourth earl, which occurred only a few months ago.



LALEHAM CHURCH FROM NORTH-WEST

A triangular piece of ground of about 200 acres on the Surrey side of the river is known as Laleham Burway. It is part of an island formed by an offshoot of the main stream and is divided from the Abbey Mead of Chertsey on the south by a stream called the Burway Ditch, and from the meadow of Mixnams on the north by another stream. This land is included in Chertsey parish, but belongs to the Manor of Laleham. In the original deed of endowment of Chertsey Abbey, between 666 and 675, it is referred to as the Island of Burgh, and is there described as separated from Mixtenham by water, which formed part of the boundary of the Abbey lands.

Tradition says that the Burway originally belonged to Chertsey, and that in a time of great scarcity and famine the inhabitants of Laleham supplied the Abbey with necessaries, in return for which the Abbot granted them this piece of ground. Whatever the truth of this story, it is clear that the Abbey of Westminster, when lord of the Manor of Laleham, held lands on the Surrey side of the river, and in subsequent grants of the manor there occur specific references to Laleham Burway. This land was exempted from the operation of the Acts of 1773 and 1808 for enclosing Laleham and Middlesex, but it was eventually enclosed under an Act passed in 1813, when the Earl of Lucan, who, as I have already mentioned, had by that time become possessed of the manor, acquired by allotment and purchase about 70 acres.

In the interesting notes prepared by the late Mr. Charles Wheeler upon the occasion of a ramble which this Society undertook through the district in 1889, occurs the statement that at Greenfield, near Laleham, are the remains of an extensive earthwork which Stukeley fancied was the camp formed by Cæsar after he had crossed the Thames, and the spot where he received an embassy from London. Coming to more recent years Laleham will ever be associated with the two most distinguished members of a family many of whom have won fame. "Arnold of Rugby" lived in the village for nine years prior to his taking up the headmastership of the great school. His house stood in the Ashford Road a little to the north-east of the church, and the site is occupied by the present vicarage. Two fine cedar trees still remain to recall his memory. His son, Matthew Arnold, was born here, and though the family removed to Rugby when the lad was only five, the latter returned here for a time in later youth as pupil of his uncle, the Rev. John Buckland. Here also the poet was brought for burial in 1888.

The church is dedicated to All Saints, and, though retaining some twelfth century features in the nave, has been so altered and rebuilt at various times that little really old work now remains. It consists of chancel, with north chapel belonging to the Lucan family, nave of three bays which had north and south aisles, the latter pulled down, and the former rebuilt in recent times. At the west end of the north aisle stands an eighteenth century brick tower covered with ivy.

There was until recently no east window, but one has now been inserted, and a large oil painting by Harlow, which formerly hung on the east wall above the altar, has now been placed at the west end of the north aisle. It depicts Our Lord walking upon the waters.

The nave has arches of twelfth century date with chamfered pointed arches springing from massive circular columns with scalloped capitals. On one of the columns in the north arcade may be seen a small incised Crusader's mark.

In the flooring of the north aisle is a stone altar slab with five incised crosses, and on the wall above the south arcade is a stone panel of carved ornament, apparently made up of enrichments removed from other positions.

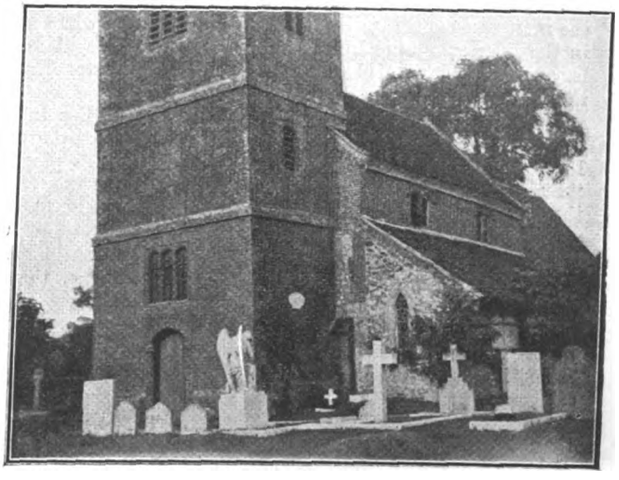
The organ, which formerly ocupied the west end of the nave, is now removed to the chapel on the north side of the chancel.

There are three bells by William Eldridge, 1663. Most of the church plate is modern, but there is a standing paten of 1767.

The registers date from 1538.

The parish of Littleton lies immediately to the west of Laleham. The northern portion is roughly triangular in shape, the base, about two miles long, lying along the Staines and Kingston Road, the sides converging towards the village as apex. The southern portion is a strip about 1½ miles long and less than half a mile in width, extending from the village to the River Thames.

The curious shape of the parish is to be accounted for by the fact that it probably formed part of Laleham until the end of the eleventh century, when the triangular piece was separated from the latter, the dividing line being drawn at the River Ash. The ground falls very gradually towards the Thames, the higher and more northerly parts being in places well wooded, though much clearing has recently been carried out by the present owner of Littleton House.



LITTLETON CHURCH FROM THE SOUTH-WEST.

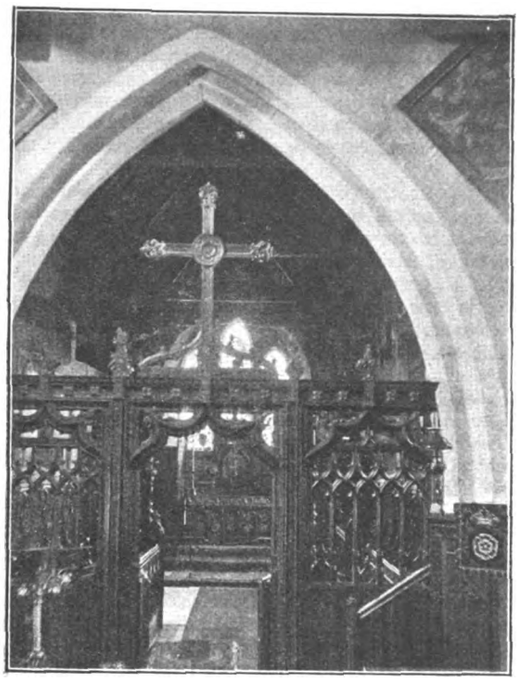
It is a notable fact that there has never been either shop or public-house in the parish, the only trade is that of the blacksmith. The nearest station is Shepperton, 1½ miles away.

There was formerly a wooden bridge here over the Thames connecting the counties of Middlesex and Surrey, of which each county maintained half. About the year 1770 the Middlesex portion was much out of repair and the authorities of the county prevailed upon those of Surrey to join in building a stone bridge. It is related that when the contractor had finished the number of arches he had undertaken they did not reach the Surrey shore, and it cost that county a large sum to make good the deficiency. The bridge

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has long since disappeared, the nearest bridges being Chertsey (up stream) and Walton (down stream).

The name of Littleton does not occur in the Domesday Survey; probably it then formed part of Laleham. Mention of it occurs in 1166, when it was held as one knight's fee in the Barony of William Blunt, Baron of Ixworth. It appears to have been in 1316 in the possession of the Abbey and Convent of Westminster. The manor has during the succeeding centuries a somewhat involved history, but coming down to more recent times we find that in 1783 it was sold to Thomas Wood, whose ancestor had held the Manor of Astlam in the same parish since the year 1660. His direct descendant, Captain Thomas Wood, held the manor



LITTLETON CHURCH.—INTERIOR.

until quite recently. Several members of the Wood family have gained great distinction in military service, perhaps the most famous being General Sir David Wood, who served in the Boer campaign in 1842, commanded the Royal Artillery at Balaclava, Inkerman, and before Sebastopol, and the Horse Artillery in the Indian Mutiny.

Littleton Park, containing the manor house, lies to the west of the church. The mansion was destroyed by fire in 1874, when among the valuables lost was Hogarth's picture, "Strolling Actresses Dressing in a Barn," together with the original receipt for 26 guineas, the price paid for the work. A portion of the house was rebuilt after the fire, and is at present in the occupation of Mr. Richard Burbidge.

The church, dedicated to St. Mary Magdalene, though comparatively small, is a very complete and perfect specimen of a village church, and its proportions suggest the probability that it follows the lines of a Norman or Transitional church with narrow aisles added and the chancel lengthened at a later period.

In plan it now comprises a chancel of greater length than the nave, a nave of two bays with north and south aisles, a lofty west tower, a south porch, and some buildings on the north side of the chancel forming vestries and the burial place of the Wood family.

The walling of the chancel is probably thirteenth century. The windows in the east and south walls are modern lancets, but beneath the westernmost window on the south side there occurs an ancient low side window. In the north wall are two original lancets, partially obstructed by the buildings already referred to, which were added early in the eighteenth century.

The chancel arch is old work of two chamfered orders. In the splay of the angle formed by the east and south walls of the nave occurs a small window, which is probably old work removed from another position and introduced here to give light to the pulpit.

The south arcade of the nave is the earlier in date, probably the latter part of the twelfth century. The pointed arches have two chamfered orders and spring from a sturdy circular column with typical cap and base.

The column supporting the north arcade is a slender octagonal shaft.

It will be observed that the eastern responds of both arcades are unusually deep in plan, and it was generally supposed that the east ends of both aisles originally formed shallow chapels containing altars. These were until recently almost entirely blocked up by masses of masonry and brickwork erected to buttress up the nave walls, but some recent careful restoration work has resulted in the east walls of the aisles being opened out and the windows restored. In the north aisle an altar slab has been placed, supported on stone brackets, whilst the end of the south aisle now forms a baptistery.

In the north aisle there is a good fourteenth century doorway, now blocked up, but having a small window inserted, fitted with stained glass designed by Millais, who resided for a time in Littleton.

The west tower is probably part of a considerable restoration which took place in the middle of the sixteenth century, embracing portions of the south aisle and the clerestories. The tower is lofty for the size of the church and consists of four stages. The top stage is perhaps an eighteenth century addition and is somewhat remarkable in being unroofed, having a quatrefoil opening in each face, and being finished at the top with plain battlements.

The clerestories have two-light windows of Tudor pattern, square-headed, of cut red brick with moulded labels. All the brickwork has at one time been covered with stucco or pebble dash, but much of this has in course of time fallen off or been removed, and the brickwork has weathered in a very charming way.

As regards the furnishing of the church, there are some remarkably good oak benches in the nave dating from the fifteenth century, and not unlike those at Harmondsworth.

The pulpit is good eighteenth century work. The font is octagonal, supported on a circular shaft. The pierced domed wooden cover seems to incorporate some old work.

In the vestry is an old iron-bound chest of the reign of Henry VIII., ornamented with leather and nail work.

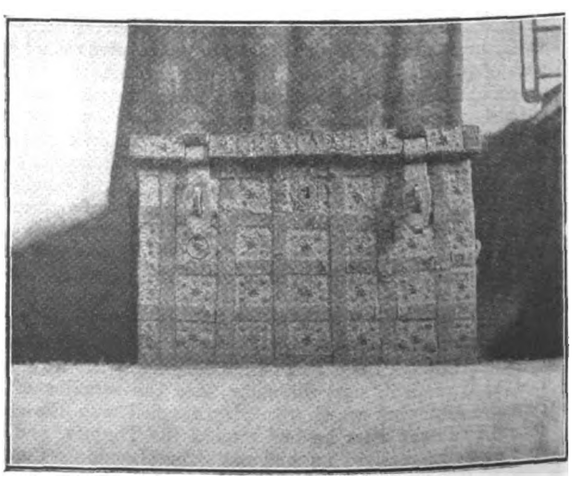
The only brass in the church is a small one on the north wall of the chancel, and records Lady Blanche Vaughan, 1553.

A somewhat unusual feature is afforded by the eight pairs of tattered colours and two red ensigns of the Grenadier Guards which were placed in the church by Colonel Wood, commanding the regiment, when it received new colours from its colonel-in-chief, the late Prince Consort.

In the tower are three bells by W. Eldridge, 1666.

The church plate includes a chalice and a cover paten of 1632, a standing paten of 1680, a chalice of 1696, a flagon of 1734, and an embossed salver of 1677.

The church registers date from 1562.



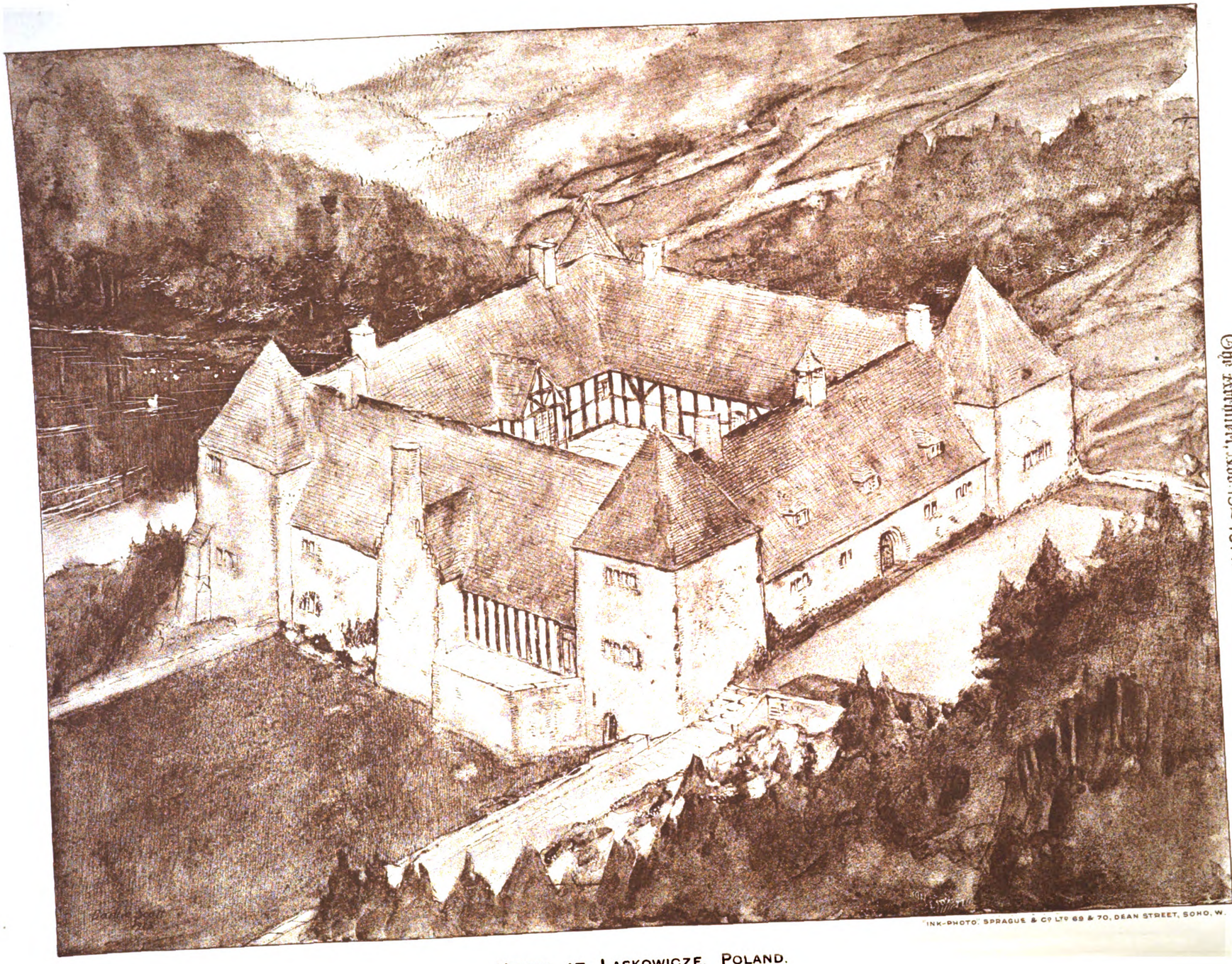
LITTLETON CHURCH.—MUNIMENT CHEST IN VESTRY.

The organ, which is of unusual capacity and merit for so small a church, occupies a conspicuous position in the western portion of the nave, and it is to be regretted that its obtrusion rather tends to spoil the proportions of an otherwise charming interior.

I must conclude by acknowledging my indebtedness to the various authorities consulted—viz., the Victoria County

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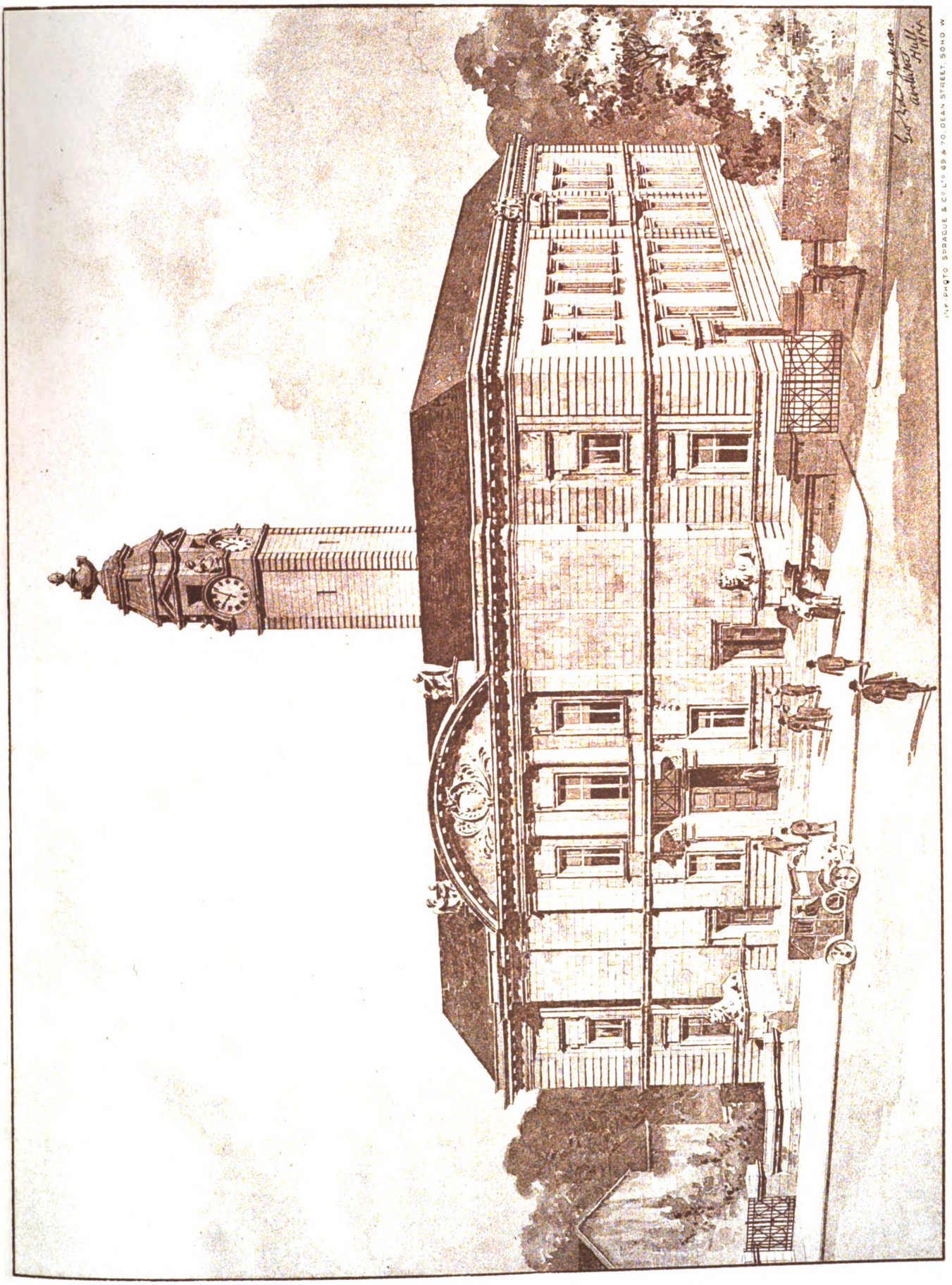
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HOUSE AT LASKOWICZE, POLAND.

Mr. M. H. BAILLIE SCOTT, Architect.

(Royal Academy Exhibition, 1914.)

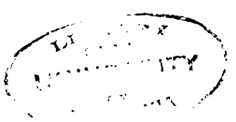
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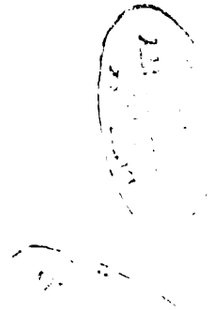
COMPETITION DESIGN FOR PROPOSED NEW TOWN HALL, BOROUGH OF MIDDLETON.

Mr. GEO. E. JACKSON, Architect.

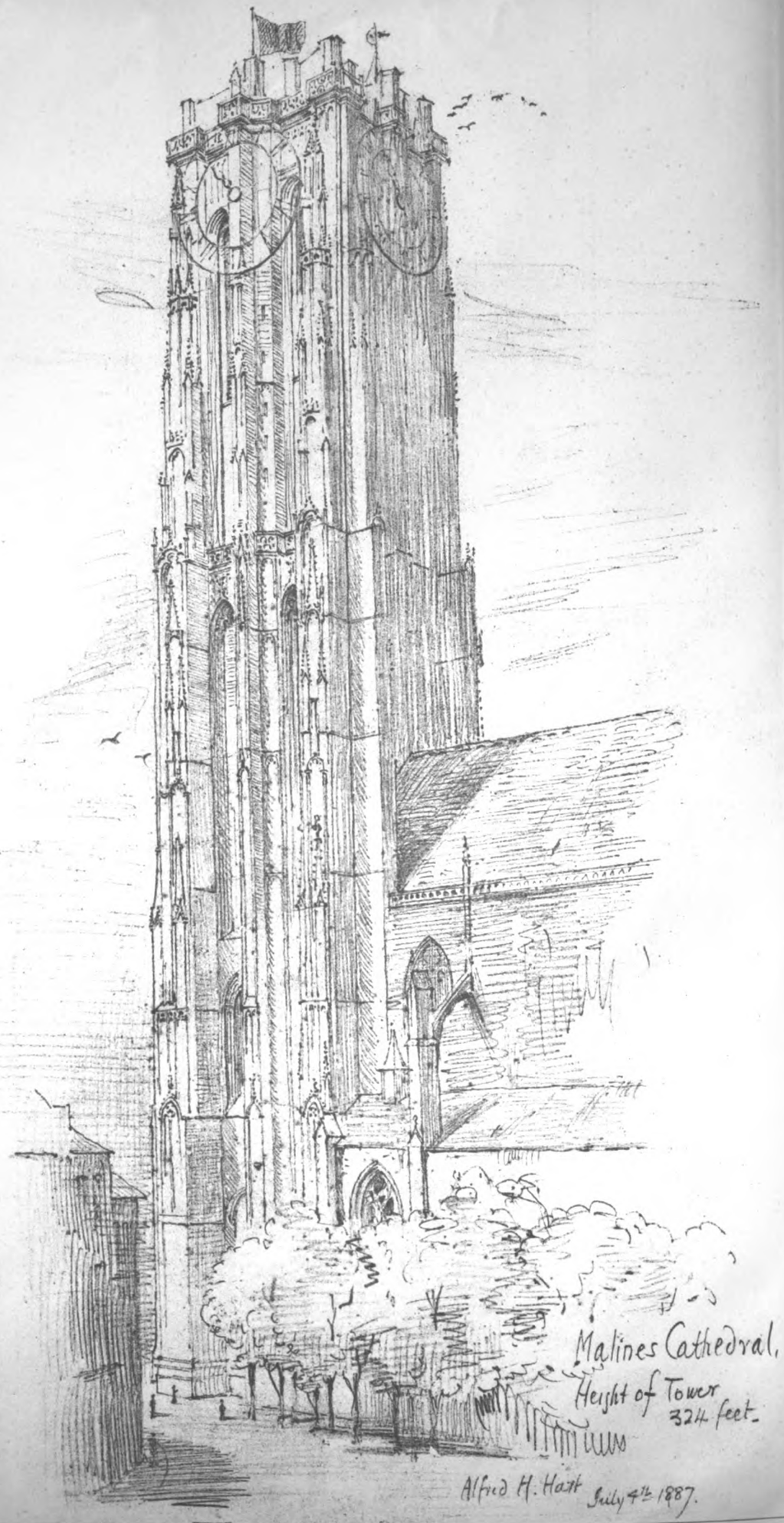
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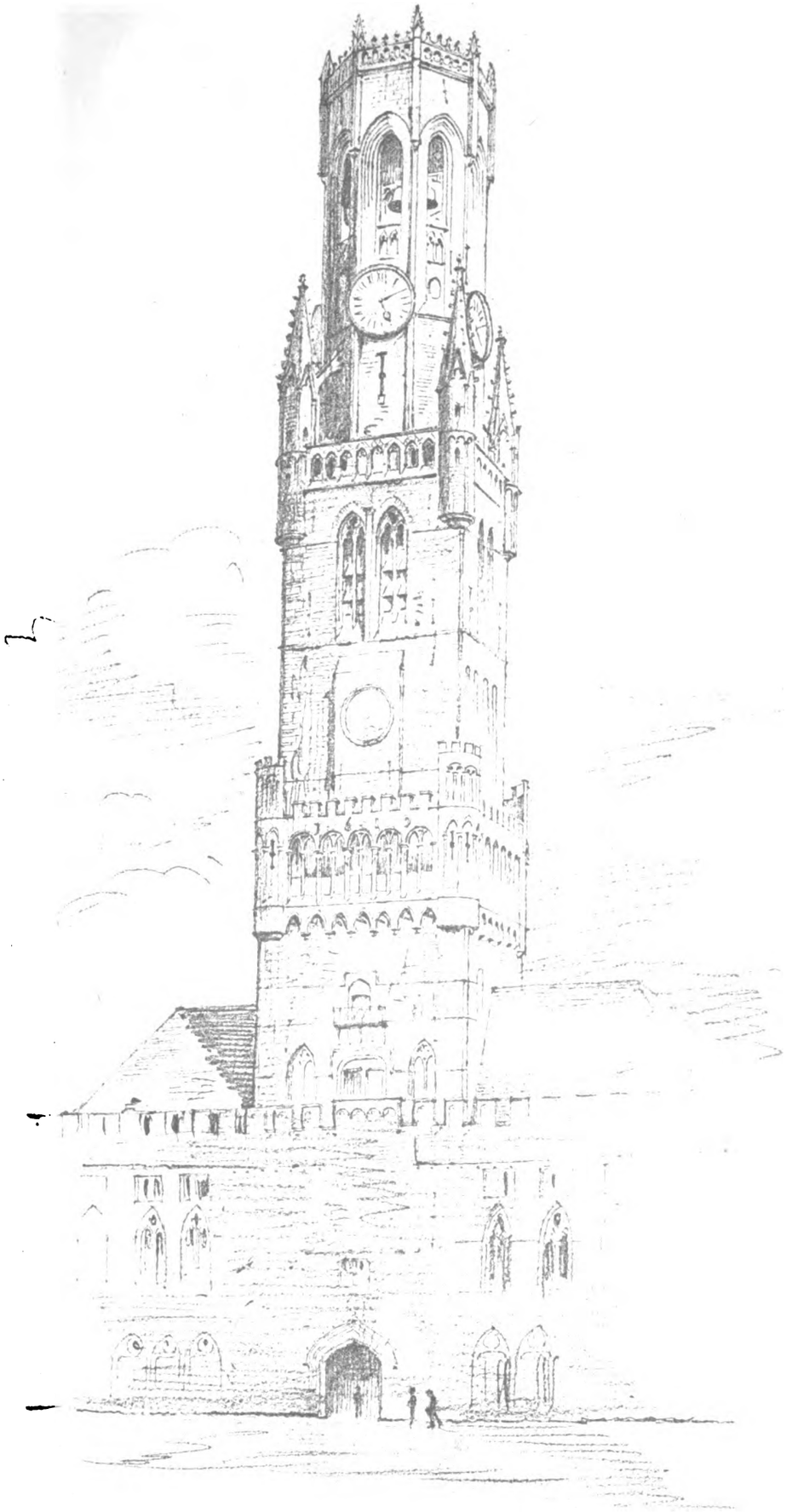


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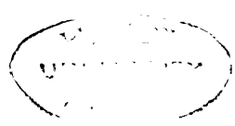
SKETCHES IN
By Mr. ALFRED H.



The Belfry Tower, Bruges
(14th cent?)
(The upper part of the octagon only is of stone — the rest is brown brick.
(height of tower 350 feet.)

A.H. Hart
June 24th 1887

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HOUSE AT SHOT
MR. M. H. BAILLIE SCO

(Royal Academy Exhibition, 1914.)

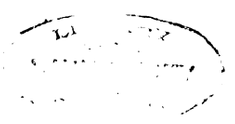
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SHORT HILLS, N. J.

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History, Jerrold's "Highways and Byways in Middlesex," and Firth's "Middlesex" in the "Little Guides" series. I am also indebted to the Chairman for some kindly help, and I am particularly grateful to the Rector of Littleton for his courteous reception of the party, and for the loan of the report of the St. Paul's Ecclesiological Society, prepared when the Society visited Littleton in 1904.

PROFESSIONAL CLASSES WAR RELIEF COUNCIL.

Training and Emigration Committee.

The war must affect very seriously the self-supporting woman of the professional and middle classes. Not only will the existing disparity of the sexes in Great Britain be increased, but for some time to come there will be less demand for luxuries and superfluities, and therefore fewer posts for women who cater for these. At the same time there is, in many of the Overseas Dominions, not only a scarcity of women, but an increasing number of openings for educated women, and it is of the greatest importance, from an Imperial point of view, that we should send the best type of our womanhood to help to build up the younger nations. It is essential for all women in the Dominions to have a knowledge of housecraft, whether they use it as a profession or no, and we feel that a large number of women and girls in the United Kingdom, whether they desire to go overseas or not, will benefit by a training in domestic science.

We hope, therefore, during the coming winter to secure a practical training for a large number of girls and young women, which will be indispensable to them if they desire to go overseas, and useful to them if they decide to stay at home.

While we are anxious, for patriotic reasons, to stimulate the flow of educated women overseas, we shall endeavour to find alternative employments at home. In every case we put training in the forefront as the best means of helping young women and girls at this crisis. In many cases the time occupied in training, during which the student must also be secured maintenance, may tide over the worst period of depression due to the war.

The groups we shall have to deal with will be:—

1. The adult daughters of professional men.

2. Younger girls whose school life is cut short rather prematurely by lack of funds.

3. Younger members of the artistic professions, already overcrowded.

4. Trained workers, whose professions are only temporarily disturbed by the war. Maintenance or temporary work during the present crisis is needed for these, who will eventually return to their own professions.

For groups 2 and 3, and to a certain extent for 1, we suggest training on the following lines:—

A. Domestic Training, including Cookery, Hygiene, Dressmaking and Millinery, Housework, Food Values, Upholstery, and Laundry Work.—We have offers of free training, including board and lodging, from some of the training colleges and schools, also offers of very low fees. Some of the principal Colonial training colleges will co-operate in this.

B. Nursing.—An opening for nurses exists in the Overseas Dominions, and though, in the majority of cases, it is better to take the necessary training on the spot, yet a preliminary probationer course in this country will be a valuable test of vocation. Some of the special and children's hospitals have promised to help in this way. The present is not a suitable time to leave this country, but it is to be hoped that in a few months' time conditions overseas will have improved.

C. Nursery Nurses.—A great demand exists for trained gentlewomen in this capacity both at home and overseas. We have offers of training at nominal rates for such work.

D. Teaching.—Openings in all classes of schools exist overseas, but, except for the highest class (university trained), it is usual to demand a certificate from a local training college. Elementary school teaching offers opportunities for the highest usefulness, both at home and in the Dominions, and it will be kept carefully in view by this Council.

E. Dressmaking and Millinery.—There are good openings overseas for high-class work. We are prepared to make special arrangements for those with distinct talent in this direction.

F. Gardening, Poultry and Bee Keeping, Fruit Farming, and Outdoor Life generally.—As training in these is especially useful in the Dominions, we are anxious to send as many students as possible to colleges undertaking this class of work. We have received offers of reduced-fee training from several of these.

G. Economics, Library, and Secretarial Work.—Training at reduced fees has been offered at several of the universities and polytechnics, qualifying educated women for posts in offices and Government Departments.

Training for Men.

The subject of professional training for young men is also engaging the attention of the Council, who feel that it will be very detrimental to the interests of the country if large numbers of boys, who, on leaving school, would normally have gone to the university or had a good professional training, are forced prematurely to become wage-earners. The Architects' Association has already promised to give some free studentships to suitable candidates nominated by this Council, and it is confidently expected that other offers of a similar nature will be received.

Bursaries.

To defray the expenses of training, where reduced fees are offered, a bursary fund will be started and will be used to supplement grants in aid from the Benevolent Funds of the Institutions or Societies who may desire to obtain this form of help for members of their professions.

The expenditure of £15 to £25 in this way at the present time will both maintain for six months and fit an individual for future productive work of permanent value to the nation.

Should existing accommodation in domestic science schools prove insufficient, it may be found necessary to open special emergency training schools.

Training and Emigration.

To arrange for training for those professions where openings are known to exist either at home or in the Dominions overseas.

Chairman (Women).—The Countess of Cassillis.

Chairman (Men).—Mr. Percy B. Tubbs, President of the Society of Architects.

Mrs. Percy Boulnois, Women's Emergency Corps.

Miss Craig, Secretary, Central Bureau for the Employment of Women.

Mrs. Archibald Colquhoun.

The Hon. Mrs. Norman Grosvenor, Chairman, Colonial Intelligence League.

Miss Lefroy, Hon. Secretary, British Women's Emigration Society.

Mr. Ian MacAlister, Secretary, Royal Institute of British Architects.

Mr. H. C. Peake, Past President, Institution of Mining Engineers.

Mrs. Kingsley Tarpey, Guild of House Craft.

Miss Wadge, Secretary, South African Colonisation Society.

Mr. Yerbury, Secretary, the Architectural Association.

Hon. Secretary.—Mrs. Gotto.

N.B.—All subscriptions should be crossed Messrs. Coutts & Co., and sent to the Treasurer, Professional Classes War Relief Council, 13 and 14 Prince's Gate, S.W.

ARBITRATION AWARDS AND SPECIAL CASES.

In the King's Bench Divisional Court on Tuesday Mr. Justice Horridge and Mr. Justice Rowlatt had before them the case of Pethick Bros. *v.* the Governors of Seale Hayne College, Devonshire. It arose on a motion by the plaintiffs, who are building contractors, to set aside an award of an arbitrator, firstly, on the ground that he had wrongfully refused or omitted to state the award in the form of a special case; and, secondly, on the ground that in undisputed facts the award was wholly erroneous in point of law.

It appeared that the arbitrator was requested to make a partial award upon a point in dispute, whether the employers were or were not justified in taking a contract out of the hands of the contractors and proceeding to complete the work by another contractor, leaving all other points of difference to be determined by a final and subsequent award. Having heard the evidence, the arbitrator published an award formally intimating that he had determined that the employers were justified in their action.

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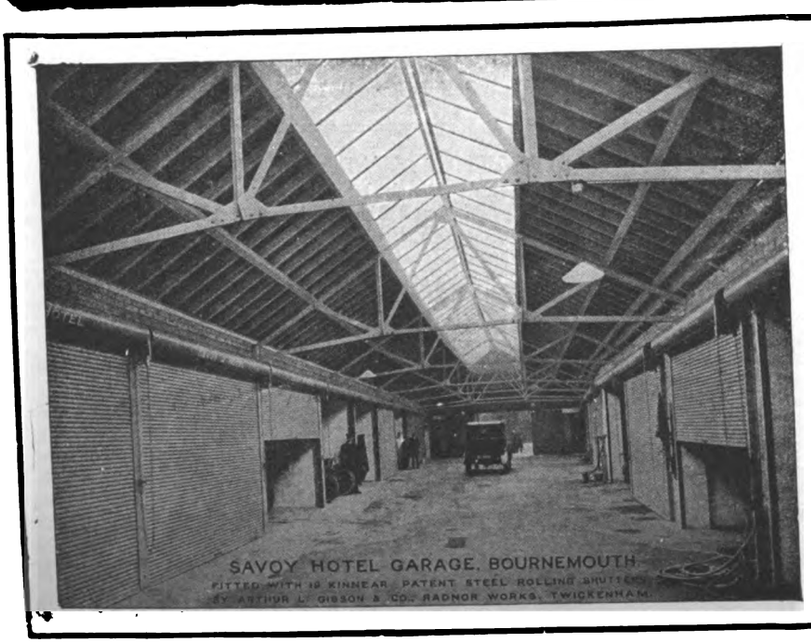
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Mr. Roche, K.C., now argued that this award should have been published in the form of a special case, and said the arbitrator undertook to so publish it, having been specially asked to do so by the contractors if against them. Counsel contended that subsequent events justified them in assuming that the award was to be in their favour, and submitted that in not stating the award in the form of a special case the arbitrator had been guilty of misconduct, which justified the Court in setting aside the award or sending it back, so that the arbitrator might put it in another form in order that plaintiffs might come before the Court and have it reviewed.

Mr. Hudson, K.C., on behalf of the Governors of Seale Hayne College, argued that the award was perfectly in order, and said there had been no misconduct on the part of the arbitrator. It was at the discretion of the arbitrator whether he should state the award as a special case or not.

Mr. Justice Rowlatt: How does the position stand now?

Mr. Hudson: There is a question to be decided as to how much the contractors shall pay Seale Hayne College—a question of amount.

Mr. Justice Rowlatt: Then this award is a complete termination of one step in the battle, though not the result of the campaign.

Delivering judgment, Mr. Justice Horridge said the second ground for the motion that the award was erroneous in point of law was no ground for setting aside an award. Arbitrators often came to wrong conclusions on points of law, but that did not set aside their awards when parties had left them to decide, either rightly or wrongly, points of dispute between them, so long as arbitrators acted honestly. With regard to the first ground for the motion, according to a case in the Court of Appeal, which, as his Lordship understood, decided this case, if, during the course of an arbitration, a bona-fide request was made of the arbitrator to state a case under the provisions of Section 19 of the Arbitration Act, in order that he might get the assistance and the opinion of that Court, and he hurried out his award so as to prevent the party asking for the special case having an opportunity of applying to the Court, that was really misconduct. What were the facts of this case? On the first day of the arbitration counsel for the contractors, handing to the arbitrator a document, requested him to state his award in the form of a special case if the arbitrator should be against them. Not content with that, upon the fifth day of the arbitration counsel asked for a further point to be stated in a special case, and on the sixth day of the proceedings he put in another written document asking the arbitrator to state his award in the form of a special case if it was against them. Now it was stated that during the course of the proceedings the arbitrator acted so as to give the contractor the impression that he was going to state his award in the form of a special case, and, in fact, that he promised to do so. For the purpose of the judgment his Lordship said he would assume that to be correct, although on reading the shorthand notes he had grave doubts whether it should be put as high as that. However that might be, on April 15 the arbitrator wrote and put as plainly and distinctly as it could be put the fact that he had decided not to state the award in the form of a special case, and therefore the parties could have fourteen days in which to go and ask the Court to make an order under which he could do so. What did the plaintiffs' solicitors do? They wrote that they were much obliged for the intimation, upon which they had not had an opportunity of consulting their clients, but as—as was probably in his (the arbitrator's) mind—their counsel requested him to state his award in the form of a special case in certain eventualities, they did not anticipate that their clients would apply to the Court before he issued his award. It was said that the Court ought to draw the inference that the contractors were rightly under the impression that the arbitrator was going to decide in their favour, and therefore they did not want the case stated. His Lordship did not think that was the true meaning. He thought that they thought "We will run our risk. We have written so many letters that we will get round the award if the award should happen to be against us." Mr. Pethick said so far as his company were concerned they could be satisfied that if the arbitrator had decided against them every necessary step had been taken to compel him to issue his award in the form of a special case. His Lordship thought the contractors knew the position perfectly well, and they thought they had got the arbitrator just because of all the things they had presented him with in the course of the arbitration. But even supposing that was so, even supposing they were under a misapprehension, the arbitrator had no other duty but to write the clear letter he wrote. The motion must be dismissed with costs.

Mr. Justice Rowlatt, in expressing his entire agreement, said it seemed to him that whatever the case for arbitration, the matter was put on a perfectly clear basis by the arbitrator's letter of April 15. The arbitrator was perfectly entitled if he had said at the arbitration, "I will state my award in the form of a special case," and if, on thinking it over, said to himself, "I don't think it is necessary," and gave fair notice to the parties.

The motion was then dismissed with costs.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Hungerford.—Eight workmen's cottages. Messrs. R. Curtis, contractors, Upper Redlands Road, Reading (£1,450).

BUCKINGHAMSHIRE.

Amersham.—Six pairs of cottages, Buck Lane. Mr. T. Thurlow, architect, 25 High Street, High Wycombe.
House, Station Road, for Mr. S. Heron.

Chalfont St. Peter.—Two bungalows, Cross Lanes Estate, for Mr. F. Lilley.
Two cottages, Common Downs, for Mr. A. Scott.
House, Whielden Lane, for Mr. G. F. Duck.

Penn.—House, Finch Lane, for Messrs. Burgess & Myers.

CORNWALL.

St. Dominick.—School for 100 children, for the Saltash and Callington Education Committee.

CUMBERLAND.

Egremont.—Council school.

DERBYSHIRE.

Derby.—Proposed School of Art, Cheapside.

Shardlow.—Workhouse: alterations and extensions (£9,200).

DEVON.

Paignton.—Lloyd's Bank, Palace Avenue: additions and alterations. Messrs. Bridgman (A.R.I.B.A.) & Bridgman, architects, Bank Chambers, Victoria Street. Messrs. S. Hawkins & Sons (of Chelston), contractors; also same architects and contractors for
Business premises, Palace Avenue: alterations.

DURHAM.

Bowburn.—Houses: additions, for Mr. J. P. Wake.

Easington Colliery.—Ninety-eight houses, for the Easington Coal Company.

Ferryhill Station.—Wesleyan Chapel: addition.
House. Mr. G. W. Lazenby, builder, Chilton Lane.
Lock-up shop, for Mr. J. T. Todd.

Sunderland.—Bede College: buildings. Messrs. W. & T. R. Milburn, FF.R.I.B.A., architects, 19 Fawcett Street.

ESSEX.

Braintree.—Four cottages, Chapel Hill, for Mr. E. Warren.

Chelmsford.—Public elementary school for about 500 places.

Leyton.—Secondary school for boys.

Romford.—House, Pettitt's Lane, for Mr. H. Kennard.
Six houses, Pretoria Road, for Mr. J. R. Holliday.
Fourteen houses, North Street. Messrs. Dowsing & Davis, builders, Mawney's.

GLOUCESTERSHIRE.

Beckford.—Twelve working-class cottages (£2,600).

Stroud.—Baths: additions, stabling, &c., for the U.D.C. (£1,350); also
Workmen's cottages.

HAMPSHIRE.

Basingstoke.—All Saints' Church. Mr. Temple Moore, F.R.I.B.A., architect, 44 Bedford Row, London.

HERTFORDSHIRE.

Redbourn.—Working-class dwellings, for St. Albans R.D.C.

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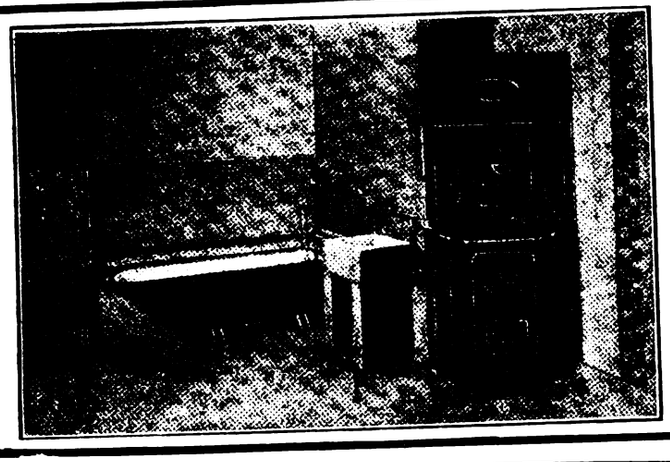
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ENGLAND—*continued.*

KENT.

Dover.—County school for boys, Frith Street. Messrs. G. H. Denne & Son (of Deal), contractors (£12,890).

Edenbridge.—Special subjects centre. Messrs. Treasure Bros., contractors, Crofton Works, Orpington (£800).

Ightham.—Six Council cottages. Mr. E. Pawley, architect, 3 High Street, Farnborough.

Maidstone.—Proposed cheese factory, for Messrs. Clarke & Epps.

Medway Mills: grain silo, for the Medway Milling Company.

The "Morning Star," Boxley Road: addition, for Messrs. Style & Winch, Ltd.

Margate.—Nos. 224 and 226, Northdown Road: additions. Messrs. Reeve & Reeve, architects, 7 Cecil Square.

Wrotham.—Three cottages, St. Mary's Road, for Major Edmeades.

LANCASHIRE.

Accrington.—Smallpox hospital, Houlker Barn Farm Estate, Oswaldtwistle.

Ashton-under-Lyne.—Secondary school.

Fazakerly.—Smallpox hospital, Harrow Hall Estate.

Levenshulme.—Tramway offices, Lloyd Road, for the Manchester Corporation Tramways Committee.

Little Hulton.—Council school, Whittle Street. Mr. R. Littler, County architect, 16 Ribblesdale Place, Preston.

Manchester.—Church, Rushford Street, Longsight.

LINCOLNSHIRE.

Brigg.—Workhouse: infirmary (£6,000).

Lincoln.—Electricity Works: extension.

Four houses, Derwent Street, for Mr. W. H. Close.

Sleaford.—R.D.C. offices.

MIDDLESEX.

Chiswick.—Girls' secondary school (£5,600).

MONMOUTHSHIRE.

Risca.—Two hundred and thirty-six Council houses.

SOMERSET.

East Huntspill.—Four working-class dwellings.

STAFFORDSHIRE.

Cradley Heath.—"Talbot" Hotel: re-building. Mr. A. J. Butler, F.R.I.B.A., architect, 31 Priory Street, Dudley.

Longport.—Pottery Factory: extensions. Messrs. Ford & Slater, architects, Over House Chambers, Burslem.

Newcastle-under-Lyme.—Proposed cheese factory. Messrs. Chapman & Snape, architects, 5 Lad Lane.

Stoke-on-Trent.—Mixed school (for fifty places), Oakhill (£9,500).

Northcote Memorial Catholic Schools, Knowl Street. Messrs. A. R. Wood & Son, architects, Town Hall, Tunstall.

Wolstanton.—Public offices, for U.D.C.

SUSSEX.

Brighton.—Public elementary school, Loder Road (£15,000).

Fittleworth.—Proposed workmen's cottages.

Horsham.—Proposed isolation hospital.

WARWICKSHIRE.

Foleshill.—Brewery: additions and alterations, for Messrs. Atkinson's, Ltd.

Polesworth.—Four houses, Birchmoor Road, for Mr. J. Hope.

WILTSHIRE.

Potterne.—Six working-class cottages.

YORKSHIRE.

Baildon.—Cinema, shops, &c., Northgate. Messrs. Kirby and Botterill, architects, 9 Market Street, Bradford.

Bridlington.—Steam laundry, Applegarth Lane, for the Bridlington Steam Laundry Company.

Delph.—Council school (£4,900). Mr. J. Stuart, Education architect (Wakefield).

Doncaster.—Municipal offices, Priory Place.

Halifax.—Workshop, Pellon: extension, for Messrs. Willis & Bates. Mr. W. W. Longbottom, architect, 11 George Street.

Ripon.—Infectious diseases hospital: extension.

York.—Sanatorium, Raywell House: pavilions, &c. (£13,000). Mr. B. Stamford, architect.

WALES.

Llandudno.—Sixteen working-class houses.

Llanerchymedd.—Fifteen workmen's dwellings.

SCOTLAND.

Arbroath.—Hackle shop, John Street West, for Messrs. D. Corsar & Sons, Ltd.

Cambuslang.—Workhouse: buildings. Mr. J. Lockhead, F.R.I.B.A., architect, Hamilton.

Paisley.—Tenement of shops, houses, &c., 32 Well Street, for Mrs. W. Kingsberry.

Stornoway.—Cinema House, Keith Street, for Mr. T. Watson (of Kent Road, Glasgow).

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Organ Building and the War.

SIR,—In spite of the efforts to maintain "business as usual," there prevails a natural inclination to economise, in cases where the object of expense seems, at first sight, to be something of a luxury. We venture to point out the danger lest such economy may produce, as in some cases it has already begun to produce, a distress which it is the main desire of everybody to prevent.

It may not be widely known that in the art of organ-building England stands second to no other nation. Our land is full of organs which, for beauty of tone and perfection of workmanship, are unrivalled; and this result is due to the skill of thousands of highly trained workers whose lifetime has been devoted to their task.

It is not difficult to see that, owing to the many and far-reaching calls now being made on us all, in many instances the purchase of a proposed new organ will be postponed till "after the war," wherefore we beg to enter a plea that such postponement should not lightly be made, since the result of it will be, should the war be prolonged, that an art in which we are as a nation pre-eminent will deteriorate, or even be forced, when peace arrives, to start its long and arduous growth *de novo*.

On behalf of the Council of the Royal College of Organists,—Yours, &c.,

ALEXANDER C. MACKENZIE, President; J. FREDERICK BRIDGE, GEORGE C. MARTIN, WALTER PARRATT, Vice-Presidents; H. A. HARDING, Honorary Secretary.

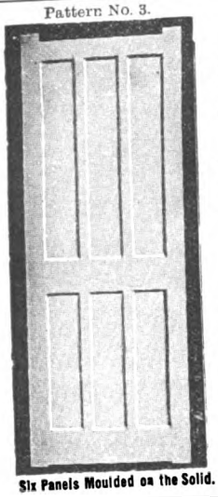
THE Architectural Association of Ireland held last week the inaugural meeting of the eighteenth session at the rooms, 15 South Frederick Lane, Dublin, for the election of members and to hear the inaugural address of the President, Mr. Harry Allberry. A badge for the President was presented to the Association by Professor W. A. Scott, of the National University. This badge was designed by Mr. R. C. Orpen, and enamelled by Mr. Oswald Reeves. The President, who was entering on his second term of office, chose for his address "The Young Architect: What will he become?"

WE regret to record the death of Mr. S. W. Kershaw, M.A., F.S.A., which occurred on the 11th inst., in his seventy-ninth year. Mr. Kershaw, who acted at one time as Librarian to the R.I.B.A., and for forty years as Librarian at Lambeth Palace, was best known as a writer on archæological subjects, in which capacity he has often contributed to our own pages. He was also an authority on matters of art, history, and topography.

THE Concrete Institute, in view of the war, has decided to adjourn the matter of continuing educational lectures until a session subsequent to the forthcoming seventh session of 1914-15. As a number of the junior members will, owing to military duties, doubtless be unable to attend the meetings of the Institute, it has been thought desirable to discontinue, for the time being, the meetings of junior members which were commenced last session, unless there should be any general wish expressed for their continuance, in which case would those corresponding state whether they themselves would undertake to attend meetings regularly, in order that the probable attendance might be gauged?

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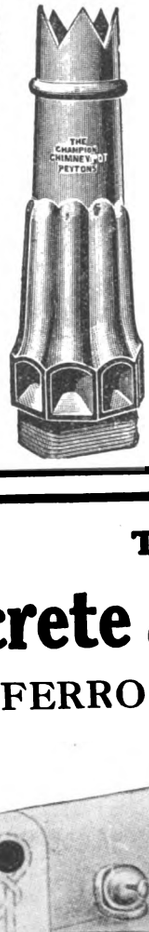
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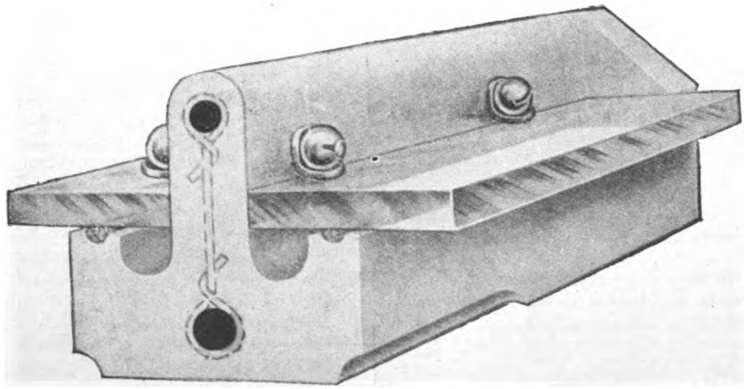
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THE ARCHITECT

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FORTHCOMING EVENTS

Friday, November 20.

Egypt Exploration Fund : Lecture by Mr. T. Eric Peet (at Burlington House, Piccadilly, W.), at 4 P.M.

Monday, November 23.

Architectural Association : Lecture on "Rheims Cathedral," by Mr. Aymer Vallance, M.A., F.S.A., at 8 P.M.

University College : Lecture on "Rheims Cathedral," by Professor F. M. Simpson.

Wednesday, November 25.

Nottingham and Derby Architectural Society : Paper entitled "Nottingham as I knew it," by Mr. T. W. Hammond, at 7.30 P.M.

Thursday, November 26.

Institution of Municipal Engineers : Meeting of West Midland District at Birmingham.

Saturday, November 28

Institution of Municipal Engineers : Annual General Meeting (at 4 Southampton Row, W.C.), at 12 noon.

THE ENGLISH PARISH CHURCH.

THE magnificence of the great monastic establishments, with their churches of cathedral scale, even if by reason of their superabundance not actually attaining that rank, has rather tended to eclipse the interest and study of the parish church in England, and to make us forget the important part that such edifices played in the mediæval life of the village, the hamlet, and the small township. From an architectural student's point of view the study of detail has rather overshadowed that of the parish church plan and arrangement, and as the most costly detail is more generally to be found in the great church of a wealthy monastic community, that of the village has found more casual attention.

The great wealth of the English countryside in parish churches must be attributed not only to the genuineness of the faith of early days, but to the part that the parish and the parish church played in the communal life of the Middle Ages in England. More particularly was this the case in the country, where the parish church became a centre of English community life, played an important part in the everyday events as well as in the devotions of the people, and was looked upon with pride and affection by all classes of the villagers.

Old civic buildings in England were very few in number, and of a meagre character when they did exist. Within the walls of the parish church not only were mayors, bailiffs, and other town officials elected, but the actual assemblies for the making and carrying out of by-laws were constantly held. Records exist of the election of mayors, for example, in the churches of Salisbury, Northampton, Grantham, Sandwich, Dover, New Romney, Lydd, Folkestone, Ipswich, Fordwich, Totnes, Plymouth, and Derby.

As Mrs. A. S. Green, in her "Town Life in the Fifteenth Century" well expresses it: "All the multitudinous activities and accidents of this common life were summed up for the people in the parish church that stood in the market-place. This was the fortress of the borough against its enemies, its place of safety where the treasure of the commons was stored in dangerous times, the arms in the steeple, the wealth of corn or wool or precious goods in the church itself, guarded by a sentence of excommunication against all who should violate so sacred a protection. Its shrines were hung with the strange new things which English sailors had begun to bring across the great seas—with 'horns of unicorns,' ostrich eggs, or walrus tusks, or the rib of a whale given by Sebastian Cabot. From the church tower the bell rang out which called the people to arm for the common defence, or summoned a general assembly, or proclaimed the opening of the market. Burghers had their seats in the church apportioned to them by the Corporation in the same rank and order as the stalls which it had already assigned to them in the market-place. The city officers and their wives sat in the chief places of honour; next to them came tradesmen according to their degree, with their families. . . . There on Sundays and feast days the people came to hear any news of importance to the community, whether it was a list of strayed sheep or a proclamation by the bailiff of the penalties which had been decreed in the Manor Court against offenders. The church was their Common Hall, where the commonalty met for all kinds of business—to audit the town accounts, to divide the common lands, to make grants of property, to hire soldiers, or to elect a mayor."

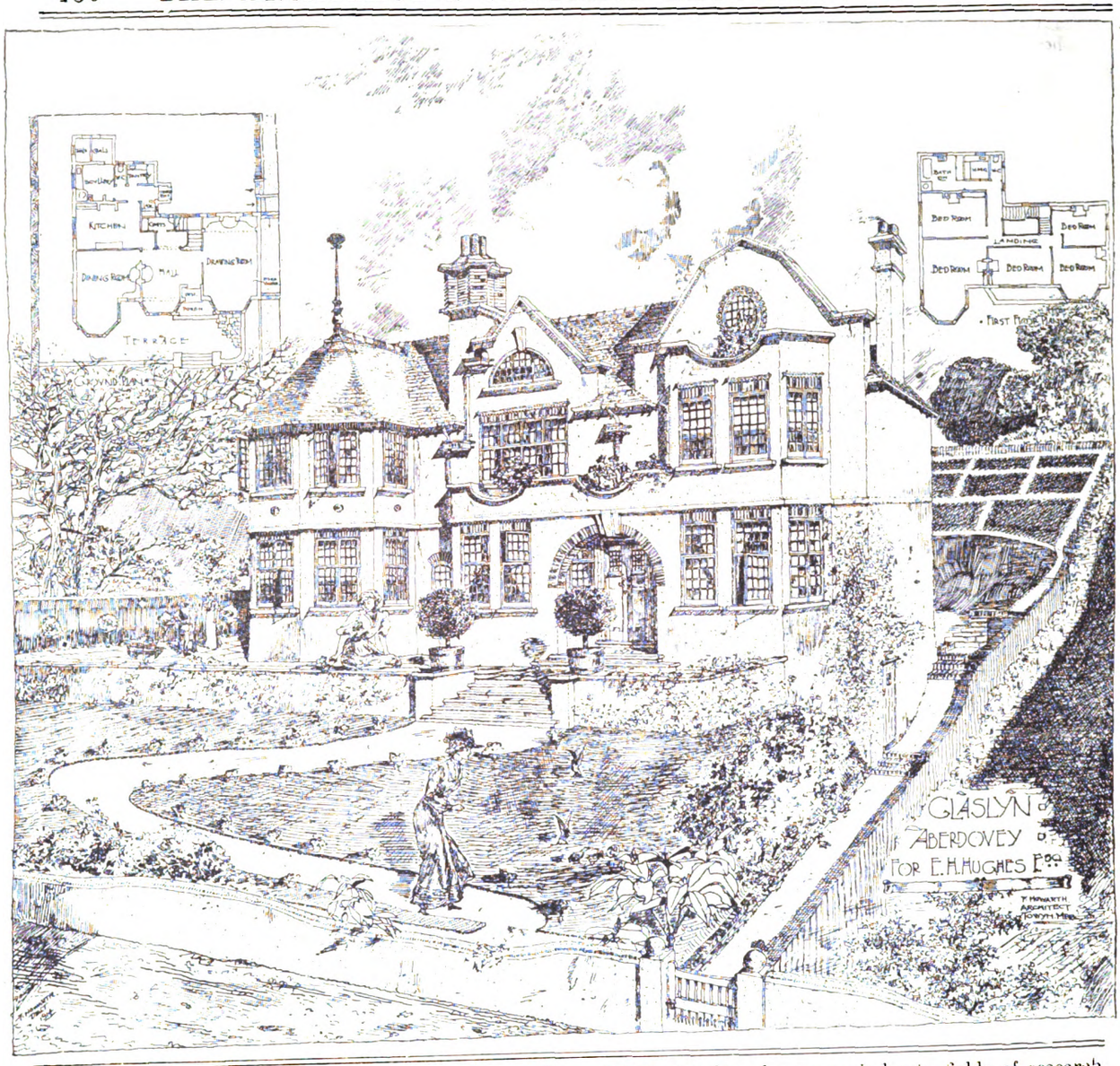
And if this was so in the boroughs, still more was it the case in the villages. In short, the fabric served in many respects the purposes for which a clubroom or institute is nowadays used, as well as for the Divine offices for which it was primarily built and hallowed. It must also be remembered that, in the view of the Church, first-fruits and tithes of increase were destined, not to provide a maintenance for the clergy, but for the relief and support of the poor; and the rector, whether of a religious house or parochial incumbent, was supposed to administer them for those purposes, he being only a ruler or administrator of them.

Thus it resulted that the parish church, both its fabric and its funds, was in mediæval England regarded by the parishioner as something in which he had a personal possession, and as illustrative of this point of view we have the selection of churchwardens, representatives of the possessory rights of the parishioners.

With this feeling in existence, it is easy to understand why the parish churches of England were so numerous, and so apparently disproportionally rich in the possession of all that was best in the art and in the lavish expenditure of the wealth of the countryside. The immense treasures in the churches were the joy and boast of every man and woman and child in England, who day by day and week by week assembled to worship in the old Houses of God which they and their fathers had built, and whose every vestment and chalice, candlestick and banner, organ and bells, pictures and images, and altar and shrine, they looked upon as their own, and part of their birthright. The parish church was indeed not only the House of God but the heritage of the people.

The use of the parish church for what we should, nowadays, call secular purposes was in vogue without any thought of irreverence, and to distinguish between

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the dual character of purpose we have the enclosure of the sanctuary and the altars by the rood-screen and the parclose, with their doors and gates.

Amongst other manifestations of the community of possession in the parish church may doubtless be included the remarkable activity in church building in the late fourteenth and the fifteenth centuries. Our grand Perpendicular churches in great degree owe their magnificence to the parochial pride of the people. Each parish was eager that its common hall should be the best it could afford, should at least equal and if possible outvie that of its neighbours. So the accession of wealth in the country villages and townlets led to its expenditure on the parish churches, to the erection of costly towers, the use of exquisite carvings and painting on screens and roofs, the provision of rings of bells, the development of stained glass, and the increased provision for its display.

The true position of the parish church in the mediæval life of England forms part of the introductory chapter in Dr. Cox's new book* on the English parish church, a book which is more particularly suited to the amateur of architecture but may be read with profit by the professional student, to whom, from the copious extent of its illustrations, it will prove a valuable guide to objects of study.

Of great value also as an index to fields of research are the little handy volumes included in the series on County Churches, the latest additions to which are two volumes* on the churches of Kent, by Francis Grayling. These well maintain the high standard of excellence set up by the previously issued volumes on the Churches of Cambridge, Cornwall, Cumberland and Westmoreland, Isle of Wight, Norfolk, Nottinghamshire, Suffolk, and Surrey.

Kent has its peculiarities, as have most other counties, in church building and furnishing, and these are pointed out by the author, who also makes a special feature of the old painted glass which can only be by reason of his personal predilection, for Kent is not pre-eminently rich in this form of mediæval art.

GLASLYN, ABERDOVEY.

This house known as Glaslyn stands very high on a hillside and is planned according to special requirements. A very fine view of the River Dovey and Estuary is obtained, and from the look-out on roof—reached by outside stairs from attic floor—the view of surrounding country is magnificent. Rooms are of convenient size, dining-room being 13 feet 6 inches by 17 feet 3 inches; drawing-room 15 feet 6 inches by 20 feet 6 inches; hall 13 feet 6 inches by 15 feet 3 inches. Each without bay

* *The English Parish Church.* An Account of the Chief Building Types and of their Materials during Nine Centuries. By J. Charles Cox, LL.D., F.S.A., author of "English Church Furniture." "Churches of Derbyshire." "How to Write the History of a Parish," &c. &c. (London: Batsford, Ltd. 7*s.* 6*d.* net.)

* *County Churches, Kent.* By Francis Grayling. In two volumes, with illustrations. (London: George Allen & Co., Ltd. 2*s.* 6*d.* net each volume.)

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or staircase. Kitchen is 12 feet 6 inches by 17 feet 3 inches, and other offices of good size. Considerable rock excavation was necessary to get a level and yard space, which is concreted and laid to fall. Ample bedroom provision on first floor is shown, and three bedrooms and box-room are provided on attic floor. A large and useful store-room is under drawing-room. External walling is 11-inch cavity, cement rough-casted, with red brick arches; roof is covered with slates from Abergynolwyn quarries; dressings, *i.e.* cills and copings, in York stone. The hall shows beams and joists, and will be panelled at a future time with yellow pine stained and polished, as is the present wood work. All the grates are "Burkone," and mantels in oak fumed and polished. Sanitary fittings by John Jones (Chelsea), Ltd. Window and door fittings are in gunmetal by James Gibbons, Wolverhampton, and lead lights and metal casements, where used, by Weldon & Co., Croydon. The contract was let to Messrs. Rees, Jones & Son, of Towyn, for £779, and the total for making up roads, paths, and steps from main road, shoring and forming landings, which are not shown in view, amounted to £900. The house was designed and built under the direction of the architect, Mr. F. Howarth.

NOTES AND COMMENTS.

Not everyone will agree with the views enunciated by Mr. Holborn Stoughton in his Royal Manchester Institution lecture on "Art and its Relation to Truth and Goodness." He, in fact, disputes entirely the ground of those who, to speak paradoxically, find beauty of art in the ugliness of fact, and so is distinctly in opposition with much of present-day thought and practice amongst those who claim or think themselves to be artists.

Mr. Stoughton laid it down that, of the three ends that life follows, art followed beauty, and for its own sake. It did not pursue either truth or goodness. These three great ends were distinct, and the fact that they were distinct was proved by the distinction having stood the test of common use in language. Any philosophy that came to the conclusion that beauty was goodness or truth was to be suspected from the beginning. The distinction was corroborated, too, by the fact that each of these three ends had its own science, the science of the nature of beauty being æsthetics, of the nature of goodness ethics, and of truth metaphysics. It was because this fundamental distinction was not always appreciated that so many criticisms of poetry and painting were entirely irrelevant. To ask was a picture good or a poem true was as if one asked whether loudness was square or danger fat. It was not that there was any antagonism between beauty and goodness or beauty and truth; it was simply that they belonged to different categories. There was, of course, programme-music, but the reason for the programme simply was that the programme had to be there to explain. And so, too, the poets, whatever they were doing or not doing, were not at least setting out to be "true to nature," or they would certainly have discovered to begin with that men talked prose.

The reason why art did not set out to imitate nature, Mr. Stoughton put it, was simply that nature was ugly as well as beautiful, and if art were to be "true to nature" it must imitate the ugly as well as the beautiful in nature. Conceivably an art in any given example might be mixed. Possibly, for instance, something didactic might be found in a certain picture, but that did not make painting didactic. For art was not useful. Directly it attempted to be useful or anything but beautiful it began to belong to another category. The pursuit of art was, therefore, the most disinterested pursuit possible to man. The great fundamental defect of this age was, indeed, that it could not think of a thing as having excellence in itself, but only as being useful either to some individual or to humanity at large. It could not simply admire, and therefore it could not respect, venerate, or worship.

With regard to this abstract view of art we must point out that even if it be granted that art follows beauty and beauty alone, we are still left with the inquiry as to what is beauty. As far as architecture is concerned art must in every case be what Mr. Stoughton calls "mixed," for it is of its essence that its works shall be useful and fitted for a definite purpose. Even amongst the Greeks whose architectural art attained as nearly as possible to abstract beauty in building, their temples were controlled in their design by the purpose for which they were intended.

In a lecture delivered before the Birmingham Architectural Association by Mr. W. H. Bidlake on "The buildings damaged by the Germans," we have put before us a sound and thoughtful explanation of the proceedings of the modern Huns. Mr. Bidlake said it still seemed a surprising thing that the German people, with whom they had been wont to associate such a high standard of intellectual activity, should in these latter days have become the destroyers of the splendid works of art of other times. In the East of Prussia, however, they had always been a warlike and turbulent people. Since the earliest days the people living on the eastern shores of the Baltic remained heathen long after the rest of Western Europe was Christianised, and they only embraced Christianity then at the points of the swords of the Teutonic knights. They adopted Christianity late, and, it was possible, only as a sort of veneer. To-day many of their writers seemed to think the Christian religion a religion of decadence and weakness, whereas the glorious heroes of the old German mythology were knights of valour. For the Christian religion they had substituted the new religion of valour in battle, of brute strength. The practical application of this religion of brute force—"kultur" contrasted with the culture of other Western nations—Mr. Bidlake showed by picturing France and Belgium before the war and after.

The excavation work at Wroxeter this year, we learn from a lecture by Mr. J. P. Bushe-Fox, has mostly been upon a large dwelling house with a frontage on the street of 115 feet, and extending back from it for over 200 feet. It consisted of many rooms, some of them with hot air heating apparatus, others with tessellated or strong cement floors, while the plaster on the walls was painted with brightly coloured patterns of varying design. At the south-west corner were the private baths of the establishment, which, like the modern Turkish baths, were furnished with hot rooms of different temperature and with cold plunge baths. Eleven stone-lined wells had been found. A water main by the road could be used at will to flush the drains of the houses. All these buildings were furnished with porticoes which formed a continuous colonnade by the side of the road, and the bases of some of the columns were found still in position.

The first lecture of a series on "Camp, Ship, and Hospital Hygiene," delivered at Bedford College, London, on November 14, by A. T. Nankivell, M.D., D.P.H., Medical Officer of Health for Poole, dealt with the conditions of a soldier's life and health in times of peace and war. The lecturer insisted on the evils of excessive aggregation or overcrowding, and dealt with the spread of disease. Special attention was given to the illnesses to which a soldier on active service was most liable, and their prevention was fully considered. The important questions of pure food, pure air, and pure water were discussed. The lecturer described in detail questions of camp sanitation, and showed many excellent lantern-slides illustrating camp hygiene, especially in regard to the camps at present occupied by our new Army. The next lecture of the series will be delivered on November 21.

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The Board of Trade has issued a report on the strikes and lock-outs in the United Kingdom for last year, and on the work of the Conciliation and Arbitration Boards. The report says that 1913 was the third of a series in which a considerable number of important disputes occurred. The great majority of disputes in every year are of short duration, and affect a comparatively small number of workpeople, and 1913 was no exception. About one-half of the disputes involved less than 100 workpeople, and only 16 involved as many as 5,000. Similarly, nearly one-half of the disputes lasted less than a week, and about four-fifths of them less than a month. Only 114 (less than 8 per cent.) were in progress as long as 10 weeks, but these 114 disputes accounted for more than half of the total aggregate duration of the disputes during the year. The number of workpeople involved in disputes in 1913 was 5.6 per cent. of the total estimated industrial population, and the aggregate duration of the disputes was equivalent to the loss of about one day in the year if spread over the whole industrial population.

Wages questions in nearly every year account for more than one-half of the total number of disputes, and of these questions strikes for an advanced wage are by far the most numerous. Such strikes occur most often in years of good and improving or at least steady employment. Although there was a decline in some trades in the latter half of 1913 the year was also one of very good employment on the whole, and strikes for an advance in wages were numerous.

A large and increasing proportion of disputes in recent years has been settled by compromise. This tendency is found if the number of disputes only is considered, but it becomes far more marked if the number of workpeople involved in disputes is taken into account. Nearly all disputes are settled by methods of conciliation or mediation, or by direct negotiations between the parties. The cases settled by arbitration are relatively few. Of the two chief methods of settlement, that by direct negotiation between the parties or their representatives is far more important than the method of conciliation in most years. The principal work of boards of conciliation is the prevention and not the settlement of disputes. In the iron and steel trades and in the tinplate industry the machinery for avoiding disputes is so effective that strikes and lockouts are comparatively unimportant. In 1913 the number of boards and standing joint committees that considered and settled cases was the highest recorded by the department.

During the first seven months of 1914 the time lost owing to labour disputes was even greater than in 1913, but since the beginning of the war the majority of the outstanding differences have been settled.

WAR ITEMS.

THE following statement from a pamphlet on Plate and Sheet Glass issued by the Commercial Intelligence Branch of the Board of Trade shows, for a recent year, the value of certain descriptions of plate and sheet glass exported from Germany and Austria-Hungary to all destinations. Figures for the United Kingdom so far as they are available have been added for comparison:—

Exported from Germany (1912)	£578,950
Exported from Austria-Hungary (1913)...	164,390
Exported from United Kingdom (1913)...	713,000

The foregoing figures include the exports of plate and sheet glass of the three countries to one another. Thus Germany exported such glass to the value of £35,600 to Austria-Hungary and £62,250 to the United Kingdom. Similarly Austrian exports of these kinds of glass to Germany were valued at £16,514, and those to the United Kingdom at £870. British exports of plate and flint glass to Germany and Austria-Hungary in 1913 were valued at £34,900 and £1,800 respectively.

Excluding these exports as well as the exports to a number of relatively small markets in which on the whole the bulk of the trade falls to the United Kingdom it appears that the exports of the three countries to thirty-five of the principal colonial and neutral markets considered as a whole were as follows:—

From Germany (1912)	£469,450
From Austria-Hungary (1913) ...	145,425
From United Kingdom (1913) ...	631,900

Owing to differences in the methods of classifying glass in the trade returns of the three countries a close comparison of their exports of glass is not possible.

It is evident that at the present time there exist a number of valuable openings for the extension of the sale of British-made glass at the expense of the German and Austrian products, and the value of this trade which might be diverted to British manufacturers from their German and Austrian rivals in the United Kingdom and other markets specified may be summed up as follows:—

(*a*) In the United Kingdom market:—

German trade (1912)	£62,250
Austro-Hungarian trade (1913) ...	870
	£63,120

(*b*) In the principal Colonial and neutral markets:

German trade (1912)	£469,450
Austro-Hungarian trade (1913) ...	145,425
Total ...	£614,875

Making the grand total of £677,995.

A pamphlet on Milling Machinery issued by the Commercial Intelligence Branch of the Board of Trade gives the following information:—

The value of milling machinery exported from Germany to all destinations amounted to £920,850 in 1912, and to £779,500 in 1913. Austrian exports of milling machinery amounted to £43,000 in 1912 and to £34,815 in 1913.

Similar particulars for the United Kingdom are not available.

The bulk of Germany's exports of milling machinery goes to European countries, the principal destinations apart from Austria-Hungary being Russia, Roumania, Belgium, France, Italy, Servia, and Netherlands. Among non-European countries the principal destinations are Argentina, Chili and Brazil.

Austria-Hungary's exports of milling machinery go mainly to Roumania, Russia, France and Servia.

In addition to the exports to the foregoing countries Germany exported milling machinery to the United Kingdom valued at £12,350, while Austro-Hungarian exports to the United Kingdom were valued at only £105.

On the basis of the foregoing figures it appears that the maximum amount of this trade with the markets specified, which under present circumstances might be diverted to British manufacturers at the expense of their German and Austrian rivals is as follows:—

(*a*) In the United Kingdom Market:—

German Trade (1912)	£12,350
Austro-Hungarian Trade (1913)	105
Total	£12,455

(*b*) In the principal Colonial and Neutral Markets:—

German Trade (1912)	£747,800
Austro-Hungarian Trade (1913)	29,035
Total	£776,835

Making the grand total of £789,290.

The issue of the "London Chamber of Commerce Journal" dated September, 1914, states, on the authority of the French Consul at Oporto, that the Portuguese market offers an important opening to foreign manufacturers of milling machinery. Hitherto, the machinery employed in the mills of Portugal has been supplied mainly by Germany and Austria-Hungary. England supplies appreciable quantities of steam engines, &c.

The milling industry is regulated in a special manner in Portugal. Except a few water mills of small import

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ance destined to serve the needs of very small localities, the milling establishments profit by the system of registration. The registered mills participate in fixed proportions in the grinding of home-grown cereals as well as those of foreign origin, and they alone may import and grind the latter. In both cases the selling price of the flour is legally fixed by a tariff, but the millers realise their best profits in the treatment of imported wheat. The working power of the registered mills is fixed at a monthly total of 22,000 tons of wheat. The number of registered flour mills is estimated at 72, of which 35 are worked by steam and the rest by water power. The total number of establishments with a large output would be only 37. To these figures may be added ten macaroni factories and four biscuit factories. The orders for renewals of machinery in these mills represent a considerable sum each year. Germany, Switzerland, Austria-Hungary and recently the United States share this trade. England supplies only steam boilers or accessory machinery. Hitherto the Germans and Swiss have had the largest share in the trade. The technical value of their supplies being about the same, competition is in prices and terms for payment. The terms for payment and delivery are generally that one-third of the amount of the invoice shall be paid when the order is given, one-third on despatch of goods, and the balance after the tests which follow the installation of the machinery. Discounts vary with the importance of the order and are sometimes as much as 25 per cent. off the catalogue prices. The conditions of delivery are franco quay at Oporto or Lisbon, customs duties being paid by the consignees.

PROFESSIONAL CLASSES WAR RELIEF COUNCIL.

THE Maternity Nursing Home in connection with the Professional Classes War Relief Council is now ready to receive patients. The home is primarily intended for the wives of professional men who are hard hit by the war, special preference being given to those recommended by the husband's professional society or institution. Wives of officers now serving are also eligible to be received. A small weekly charge is made to patients which is inclusive of all expenses.

The voluntary medical staff and House Committee includes Sir Francis Champneys and Mrs. Scharlieb, M.D., Dr. Henry Simson, Dr. Maud Chadburn, Mrs. Florence Willey, M.D., Dr. Gould May, &c., and patients may also be attended by their own doctor, provided that his services are also rendered free of charge. The home is situated in No. 14 Prince's Gate, S.W., the beautiful house lent by Mr. G. Pierpont Morgan for the purpose. Full particulars can be had on application to Mrs. Chambers, Maternity Nursing Home, 14 Prince's Gate, S.W.

COMPETITION NEWS.

LUTON.—Dec. 7.—The County Council invite architects willing to compete in a limited competition for a secondary school for girls proposed to be erected in Luton to send in their names to the undersigned before December 7. From the names so sent in eight will be selected and invited to submit designs. To the unsuccessful selected competitors an honorarium of £10 10*s.* each will be paid, provided they submit a bona-fide competitive design. Particulars may be obtained on application to Mr. W. W. Marks, Clerk of the County Council, Shire Hall, Bedford.

PAISLEY.—The School Board have determined to invite competitive plans for improvements to premises in High Street.

ILLUSTRATIONS.

CHURCH OF ST. STEPHEN AT GRIMSBY.

THIS church, of which we illustrate both the interior and the exterior, is a simple building in red brick. The architect is Mr. Walter Tapper, F.R.I.B.A.

SKETCHES IN BELGIUM.

WE have pleasure in continuing our series of reproductions from sketches made in Belgium by Mr. Alfred H. Hart, F.R.I.B.A., which we commenced last week.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A GENERAL meeting of the Royal Institute of British Architects was held on Monday, November 16, at Conduit Street, W. Mr. Ernest Newton, A.R.A., President, was in the chair.

The Hon. Secretary, Mr. E. Guy Dawber, F.R.I.B.A., announced the decease of the following members: Mr. Stockdale Harrison, of Leicester, elected Associate 1882, Fellow 1890. Mr. Harrison was a Past President of the Leicester Society of Architects and represented that Society on the Council of the Institute in 1891-92. Mr. J. H. A. Phillips, Associate, elected 1899; Mr. T. H. Whittaker, Associate, elected 1909; Mr. Bailey Scott Murphy, Licentiate; and Mr. John Preece, Licentiate. He also announced the decease of Mr. Samuel Wayland Kershaw, who was for forty years Curator of Lambeth Palace Library and formerly Librarian of the R.I.B.A. Library from 1868 till 1879. A vote of condolence was passed to the relatives of the late members and of Mr. Kershaw.

The meeting also recorded its sympathy with Mr. Fitzroy Doll, F.R.I.B.A., in the loss he has suffered by the death of his gallant son, Lieut. Philip W. R. Doll, 8th King's (Liverpool) Regiment, who was killed in action at Ypres recently after having been first returned as missing.

It was announced that an examination of candidates for the office of district surveyor under the London Building Act, held by the Royal Institute pursuant to Section 140 of the London Building Act, 1894, took place on October 22 and 23. Five candidates were examined, and the following two passed and have been granted by the Council certificates of competency to act as district surveyors in London: James Douglas Hunter (Licentiate), 39 Great Marlborough Street, W.; Henry George Warren (Associate), 16 Queen Anne's Gate, Westminster.

Mr. Paul Waterhouse, M.A., then read a paper entitled:

THE FUTURE OF THE SURREY SIDE.

London for many centuries put up with a dangerous ford where Watling Street plunged into the Thames on the Surrey side and emerged at Billingsgate.

I do not know to what extent the original London Bridge of 1176 was covered with the houses which were so interesting a feature of its life in the later middle ages, but one would expect that bridge to have been a great factor in developing the Surrey side as a corporate part of London. This expectation, however, was by no means verified. For 150 years after the bridge was established Southwark was governed by its own Bailiffs. During these years the chief effect of the connection had been as far as Southwark was concerned that it became a city of refuge for malefactors who wished for any easy escape from the city magistrates, a state of affairs which was remedied by a charter under which the Lord Mayor was made Bailiff of Southwark, and empowered to govern it by his deputy.

This bit of history merely serves to show that a bridge alone, even with houses on it, will not, for some centuries, serve to break down the barrier of that magic expression "the other side." The Thames, in fact, though bridged, did not flow through London. It flowed past London and between London and Southwark.

In due course other bridges were born. The eighteenth century, besides stripping London Bridge of its chapel, gateways and houses (a monstrous deed), built Old Blackfriars Bridge, which it dedicated to William Pitt, and Old Westminster Bridge, which was acclaimed as "one of the noblest structures of its kind in the world." But these bridges did almost nothing towards the sentimental union of the two townships.

Rogues' plan of 1743 shows Lambeth marsh, newly reclaimed from swamps and highwaymen, town planned. The system was excellent then. It is now bad.

The South Side Committee of the London Society has been considering how it can advise on the subject of the Surrey side and its future. Its attitude has been not to assume that the Surrey side is a proper playground for the sport of visionaries, but simply this—that whereas the Surrey area of denser London though intimately close to the City does not attain the value which its proximity to the centre justifies, it is bound by the laws of territorial economics to undergo extensive developments. And the important question to decide is how those developments shall take place. Let us consider first the problem of the shore itself. Opinions have been offered from a great many directions on the treatment of the right bank of the Thames, and the general gravitation of these opinions

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favours an embankment road. Some enthusiasts are all for a boulevard—a wide road and trees; others are indifferent about the trees, but insist on public buildings. In any case I don't think public opinion will be satisfied without a riverside road of some sort.

The London Society cast its eye on the mud bank which lines the Surrey coast (except at high water) all the way from Westminster Bridge to Southwark, and the idea of reclaiming it found at once great favour. Its width in places is so great that a hundred-foot roadway if established along its outer edge would have its inner side still well in advance of the present shore line, or rather wharf line. Inquiries were directly made in highly authoritative quarters, and the answer was elicited that the reclamation would, as far as Thames himself was concerned (and his traffic) do more good than harm. It is unlikely that a tract of land which has been honoured by the establishment thereon of the new palace of the County Council will always retain its present rather humble range of riverside establishments; but it would be taking rather a long step to assume that the whole frontage can be dedicated *ab initio* to stately public buildings. A portion at least of the proposed embankment should be so planned as not to interfere with the actual wharf properties which now occupy the shore. The device in any case is eminently non-committal. It wins land from water, and where land so surpasses tidal mud in urban value, this mere achievement ought in itself to go a long way, perhaps the whole way, in paying for the enterprise. Expressed opinion on the subject of the retention of commerce on the Surrey shore is uttered by two kinds of enthusiasts.

I venture to think there is room for a point of view intermediate between the man who says let there be costly public buildings and him who says let there be always mud and shot towers. But the latter can't have his way. Things happen on the Surrey side whether you wish them to happen or not. The power station of the Post Office is one of the things that has happened. This unfortunate building quite spoils by its styleless insistence a quarter-mile of the landscape which it encumbers.

If there is still any life in the wharf trade let us keep it going and give it dignity.

The actual recommendation of the South side report, which is offered as a suggestion rather than a definite proposal, reads as follows: "That from a point adjoining the new L.C.C. Hall to Southwark Bridge there should be a continuous embankment 100 feet wide, so placed that it shall coincide on its river side more or less with the low-water edge of the mud-bank. At points where the embankment so found is remote from the present wharf frontages, it might be possible by the introduction of the bye-stream or lagoon dock principle . . . to leave the present riverside properties in the enjoyment of their present frontages, altered only by an improvement of the water-approach by the substitution of the lagoon for the mud-bank. Barges would, of course, enter these backwaters or lagoons by channels passing under the embankment. In other places where the embankment comes close to the present wharf line it is thought that there might possibly be at intervals riverside warehouses, built as wide arches over the roadway, being thus brought up to the riverside for commercial purposes without interfering with the traffic uses of the embankment roadway, &c."

The new Charing Cross Bridge project, at first a visionary idea, seems now to be looked upon by those practically concerned as a reasonable proposition. The project involves the abolition of Charing Cross Station, the formation of a bridge for foot and wheeled traffic in lieu of the present railway which reluctantly harbours a stream of compressed pedestrians, and, of course, the establishment of a new station on the Surrey side. No one knows to what extent the mere annihilation of that awful nightmare of steel would re-make the vanished beauty of the Thames. That alone would be worth fighting for, and the battle once won there is not a man with an eye in his head who wouldn't clamour for the removal of the Blackfriars horror also.

The advocates of the scheme offer variant proposals. Let me allude to what may be called "the battle of the levels." Mr. Lucas is the advocate and to a large extent the originator of the scheme for a high level bridge. He argued very capably that a high level bridge could start from the Strand at the Strand level, could surmount the present north side embankment and reach the new South Eastern Station at the level of its own railway lines. In fact, the interesting warmth of our friendly controversy was rendered all the warmer by the fact that both sides were in the right. I began to think that we should finish with a sort of *pont du gard*, doing business at two levels.

But the South Side Committee voted, and the vote fell on the low level.

That this was so was largely due to the production of a low-level suggestion by Mr. Barclay Niven and Mr. Raffles Davison. While accepting the position suggested by the South Side Committee and by Mr. Niven for the proposed new South Eastern Station, I still adhere to the idea that on general grounds, and for reasons of more equable distribution, a better place would be about half-way between London Bridge and Waterloo than to the south end of the new bridge.

The road question is by no means the least important of the Surrey side problems. The fact is that the roads on the south side are the unfortunate results of common sense and system, common sense which has become inapplicable and system which has ceased to be valuable.

So long as the traffic on the roads was moderate there was everything to be said for an arrangement whereby the travellers from the country were collected at points from which they could be conveniently distributed to whatever part of the town was their chosen destination. But it is clear that in a modern town of modern population such concentration is entirely the reverse of what is desirable.

The ideal planning for the arterial roads approaching a town would be that every such road should, instead of joining cause with other incoming routes, divide itself into two tracks at the outskirts of the town, thereby not only giving its passengers the chance of shortening their journey by directing themselves towards the quarter required, but also counteracting that proportionate increase of traffic which grows as the town is approached even in a road that has no important branches brought into it.

Some of the modern suggestions for new roads comparatively needed embody the construction of fresh thoroughfares, intend to discharge into the already congested whirlpools at one or other of the three main circuses, St. George's Circus, the Elephant, and Vauxhall Cross. Surely we should hesitate to add embarrassment to these overworked spots without making the attempt to find out whether something cannot here and there be done to get the plan of Southwark and the Borough more nearly into line with the arrangement which appears to be the ideal.

For many years I have advocated—and so have others—a comparatively direct road from Westminster Bridge to Southwark Bridge, thus providing a useful drive from the West End to the City. I am told that this cannot be, and that the best I can hope for is an improvement of the connections between Lambeth Bridge and London Bridge. If I cannot have my road I suggest that instead we should have two good east and west roads. One might be north of the South Eastern line and the other south of it.

Something is amiss with the Surrey peninsula that mere roads will not cure. You may, as you cross the river, have doubts about the mud bank, you may have a little uncertainty about whether there is poetry in Bankside or merely oddity, you may, indeed, have fully persuaded yourself that the clean sweep is the only course possible for the reformer of the shore; but spend an hour among the sinuous dreariness of the hinterland where Victorian enterprise stamped its six-storeyed gloom upon the prosperity of the then new thoroughfares, and you will come back to the barges, the mud, and the wharves with such a love for their serene simplicity that you could almost kneel down and kiss the foreshore. Bankside may be doubtful, but there is no doubt about Southwark Street. It is devilish. There is a protestant gloom about its smileless countenance that casts upon the passer-by something of the shadow of a London Sunday. You come away from it with the impression that the whole street is designed in the style which encouraged the use of stopped chamfers in combination with the orders.

I defy anyone to whom architecture has any spiritual appeal to wander through the region between Waterloo Road and Borough Road without an attack of the deepest pessimism unless he contrives to keep exclusively to the actual slums. Barring certain churches and a few settlement buildings, there is in this region of London scarcely a single modern building that does not by sheer force of architectural iniquity radiate actual depression of spirit.

That is one reason to my mind for the formation of two or three new streets running clean through the district. The streets themselves will not effect the cure, but the mere fact of newer architecture may.

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It is not merely that every generation thinks ill of that which preceded it, but it is quite certain that in that unhappy period men were given costly opportunities which they were either too careless or too ignorant, or perhaps too diabolically inventive to use with architectural decency. The tame simplicity of the older houses in Waterloo Bridge Road is bad enough, but it is heaven to the caddish ingenuity of their new neighbours.

DISCUSSION.

Mr. Edwin T. Hall, in proposing a vote of thanks, said that a paper like the one just heard was appropriate even at the present crisis, inasmuch as they were after all looking forward to the time when war shall cease—this particular war at all events—and they would be able to tackle such great problems. In town planning there was no more fruitful problem than that of London on the other side of the Thames. The almost fabulous cost entailed prevents a new laying out of the north side. In illustration of this he might mention that some years ago a gentleman offered premiums amounting to about £1,200 for the purpose of obtaining competitive designs for such a scheme. But the Committee, which was formed chiefly of business men, and on which he was invited to act, broke up after its first meeting had gone half an hour, when they found the cost entailed in one small street alone would be £12.000,000, and the project as a whole would cost something like twice the National Debt. But something could and must be done to improve the southern roads. The South Side Committee of the London Society had given a great deal of attention to this subject. Whether or not their admirable schemes could be carried out to-day or to-morrow was not the point. Perhaps they represented something to be carried through during the next century or century and a half. As Mr. Waterhouse had pointed out, Southwark was for a very large number of years a city of refuge, a perfect Alsatia for criminals. Yet there were still some quite interesting little places there. He would like to draw particular attention to one piece of architecture, namely, the beautiful set of almshouses in Holland Street, Blackfriars. In the construction of the proposed boulevard they were not destroying warehouses. According to the scheme the traffic would not spoil the Thames, for the lighters would pass out of sight into the proposed lagoons. If in course of time these businesses became superseded their sites would always afford magnificent frontages beside the lagoons. The present railway bridges spoil the beautiful river. The great beauty of the low level scheme starting from the Embankment must appeal to all classes. The Grande Place at the Northumberland Avenue end would be a very delightful feature. The great value of the building site where Charing Cross Station now stands might well pay for the scheme of removing this station to the south side. The subject of circuses as opposed to the gridiron plan is well worth consideration. Most of those present remembered a time when it was the general opinion that circuses were the things to be aimed at to improve the traffic conditions of London. But Mr. Waterhouse seemed to be right in arguing they were impossible as a basis for the fast traffic we have now. The great east to west roads on the south side were undoubtedly wanted.

Colonel Hellard, R.E., considered that the present moment was the time to bring forward all such schemes, for when the opportunity came for carrying some of them out people would have made up their minds as to what would be best. There were no engineering difficulties in Mr. Waterhouse's proposals. There were only financial ones. It must be remembered that both Tower Bridge and London Bridge were the least prepared for further traffic; statistics showed that they were in proportion carrying more of it than any other bridge over the Thames. The transfer of the South Eastern Station to the far side of the river would no doubt be beneficial to local traffic. Where Charing Cross Station now stands there is no possible means for expansion. On the far side there was an area which would fulfil their wildest dreams.

Captain Swinton said that when there arose a question of moving the stations from the north to the south side it was necessary to consider the bridges. Some time ago when dealing with this matter the railway company had told him that they could not move in the matter until there was provided proper access by road bridge. Three years ago he had gone into the subject from the financial point of view; he could assure them that it was not so easy as it seemed. As to the proposed embankment on the south side, he failed to see what use such road would be for traffic; as a park for children it would be invaluable. It was almost inconceivable how difficult it was to drive a straight line of road through different classes of property. It would be possible, however, to deal with a road following the line of the New Cut.

Mr. H. H. Statham said that somewhere between 1815 and 1820 Napoleon had declared Londoners did not know what to do with their fine river (which he had never seen), for they ought to make splendid boulevards along it. Napoleon must have meant on both sides, for it was there one still wanted stately buildings and fine architecture. Personally he felt no admiration for the sight of mud in a capital city. He protested absolutely against having a bridge with houses on it. When traversing a bridge he wanted to see the water and to enjoy the fresh air. Whatever the architectural merits might be, he thought houses on it were a mistake. When he was on a bridge he did not want to feel he was in a city.

Mr. E. P. Warren thought that a meeting of this kind which dealt with ideals was most refreshing and invigorating. Usually one was brought up against the financial expert and the practical person. Paris in its present state of trafficless tranquillity affords an opportunity of observing the splendid disposition of its architecture and its great spaces. Walking beside the Seine a very short while ago his heart sank when he thought how Londoners treated their waterway—which was a much finer one, at any rate at high tide. In a great capital city he did not think the mere accidental features of the past should be retained in the face of the possibilities of the future. In regard to the houses on the proposed bridge, he held it would be a great mistake to block the view up the river.

Professor Adshead admitted to being one of those innumerable people who had at one time prepared a scheme for the improvement of the south side. He considered the removal of Cannon Street Station was equally important as that of Charing Cross. Part of his scheme was to separate trunk traffic from suburban traffic. On the site of Cannon Street Station he would put a great new bridge and not at St. Paul's. It was imperative to have an embankment on the south side, though the conditions there were quite different to those on the north. There was no need for a road. Personally he did not believe the lagoon system would ever be introduced. The improved traffic facilities would alter the conditions of business. Traffic problems were largely a matter of traffic control.

Mr. Dicksee, speaking from experience gained as a district surveyor on the south side, agreed with Mr. Waterhouse as to the undesirability of circuses. But as they were now there it was necessary to make the best of them. When those in South London were made there was no bridge lower than London Bridge. A great improvement might be effected if the Borough Road, with its width of 80 feet, were continued due east through property practically worn out so as to distribute the cross river traffic.

Mr. Ernest Newton (the Chairman), after remarking on Mr. Waterhouse's unparalleled gift for making everything so easy, whether it was removing railway bridges or replanning areas, put the vote of thanks to the meeting.

The vote was passed by acclamation.

Mr. Paul Waterhouse briefly acknowledged the vote of thanks.

The meeting then terminated.

R.I.B.A. PROBLEMS IN DESIGN.

The designs submitted under Subject XVII. will be on view in the Gallery of the R.I.B.A. on Monday, Tuesday, and Wednesday, November 30, December 1 and 2 inclusive, between 10 A.M. and 8 P.M.

ARCHITECTURE ON THE FIRING LINE IN FLANDERS.

By J. TAVENOR PERRY.

ACROSS a broad belt of country some thirty miles long and stretching from Wervicq on the Lys to the sea and the sand dunes of Lombartzyde, the tide of battle ebbs and flows with never-ceasing destruction; and it embraces towns and villages full of important architectural remains, some of which have already been devastated, while the fate of others trembles in the balance. Among the little towns are Ypres, Loo, and Furnes, which, though threatened, are just now beyond the clutches of the invader; and Roulers, Dixmude, and Nieuport, which have already fallen victims.

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to his vandalism; and some account of their archæological characteristics is desirable, more particularly as photographs of the less known are not to be found in the Art Library of the Victoria and Albert Museum, and are not procurable from the principal photograph publishers in London.

Of the former group Furnes was fully described not long nce in an illustrated article in *The Architect*, together

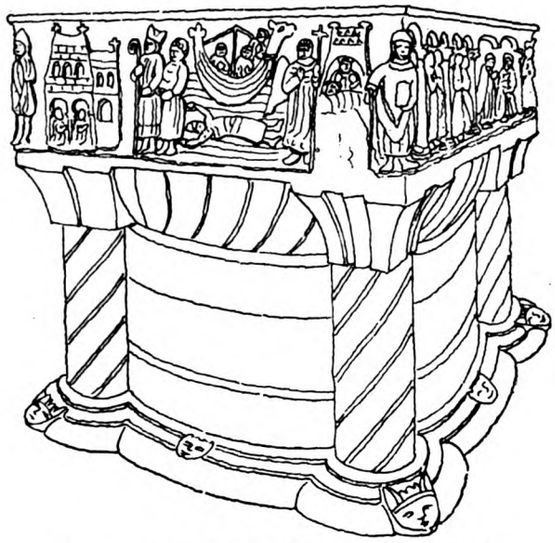


FIG. 1.—FONT AT ZEDELGHEM, NEAR BRUGES.

with the remains of the great Cistercian abbey of the Dunes to be found among the sand-hills between Furnes and Nieuport. Ypres is frequently visited, and is well known to all architects; but the little town of Loo, between that place and Furnes, and some villages lying to the south of it, the scene of present fighting, are almost entirely unknown except to the Flemings themselves. Loo was once a fortified town, and some portions of the ancient walls, with the ruins of the castle erected in the fourteenth century and one of the gates, still remain; while round its Grande Place are still to be found some interesting buildings, among which are the Hôtel de Ville, built in 1566, with the town belfry, not unlike that of Alost, in the angle. There is also the great parish church of St. Peter,

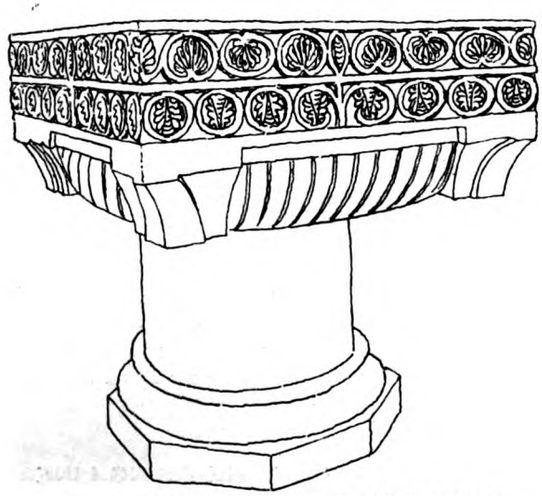


FIG. 2.—FONT AT ZILLEBEKE, NEAR YPRES.

with a choir of the fourteenth century, which contains early seventeenth-century oak carved work in the stalls and high altar, and some fine embroideries preserved in the sacristy. There was also at Loo a rich Augustinian Abbey erected in 1093, destroyed in the Revolution; but the chapel of the Convent of the Gray Sisters, built in 1560, has survived. It is also interesting to note that in the church of Pollinchove, just outside Loo to the west, is preserved the pulpit of the destroyed cathedral of St. Donatus, Bruges.

A little to the south-west of Ypres the church in the village of Zillebeke contains an early font of the blue stone of Tournay, which, although of a different character so far as its sculpture is concerned, evidently belongs to the same group as the well-known examples of Winchester, East Meon, and Termonde. All of these stand on five shafts, and have the bowls covered with archaic sculpture in low relief, showing grotesque figures, as may be seen on the not far off font in the church of Zedelghem, of which we give a sketch (fig. 1). But the font-bowl of Zillebeke is sculptured, though in a similar manner, with vine leaves, grapes, and doves, and stands at present only on one shaft, the bowl having been probably remounted at some subsequent date. We give a sketch also of this to compare with that of Zedelghem, which is mainly devoted to illustrating the story of St. Nicholas of Myra (fig. 2).

Five miles south of Ypres, on the road to Armentièrs, so often mentioned in the despatches, lie the remains of the great Benedictine Abbey of Messines, founded in 1060 by Adela, the wife of Baldwin V. and daughter of Robert, King of France. It was suppressed before the Revolution, the conventual buildings being secularised and converted into an orphanage founded by Maria Theresa; but the church has been fortunately preserved and made parochial. We give slight sketches of the interior and exterior of this interesting building, sufficiently showing its early character



FIG. 3.—THE ABBEY CHURCH OF MESSINES, NEAR YPRES.

as well as the solidity of its construction, while the fact of the walling being built with the local iron-stone gives it a dark and almost forbidding look. The main structure, consisting of the choir, with its square termination, the transepts and central tower, evidently belongs to the eleventh century, and no doubt forms part of the ancient foundations; for in the large crypt under the choir the Countess Adela was buried, and her remains were exhumed when the church was restored in 1890. All this work is of early Romanesque, but the great central tower was raised, and the nave and north choir aisle seem to have been built in the thirteenth century, when the transepts were also enlarged (figs. 3 and 4).

A little further off from Ypres, and in a south-easterly direction, stands, on the left bank of the Lys, the little town of Wervicq. Its history goes back to Roman times, for it has been identified with the *Vevoriacum* mentioned in the itinerary of Antoninus; but it claims our notice mainly for its remarkably fine church, erected, as recent discoveries have shown, on the site of an ancient temple. It consists of a nave with north and south aisles, deep north and south transepts, an apsidal choir with ambulatory and a small eastern chapel, and north and south choir aisles projecting as far as the ambulatory. The square western tower has been recently reconstructed and crowned by a spire. The church was first built in 1214, but burnt out in 1382, and immediately reconstructed on the same plan; and although its old woodwork has been destroyed, and it was never very rich in sculptured decoration, its great height and perfect proportions make it one of the most satisfactory churches in Belgium. Our sketches will give a general idea of the east end of the church (figs. 5 and 6).

Nearly opposite to Wervicq, but chiefly on the French side of the Lys, is Comines, the birthplace of the father

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of modern history; and it is to be devoutly hoped that the super-maker of modern history will not befoul it with his Vandals.

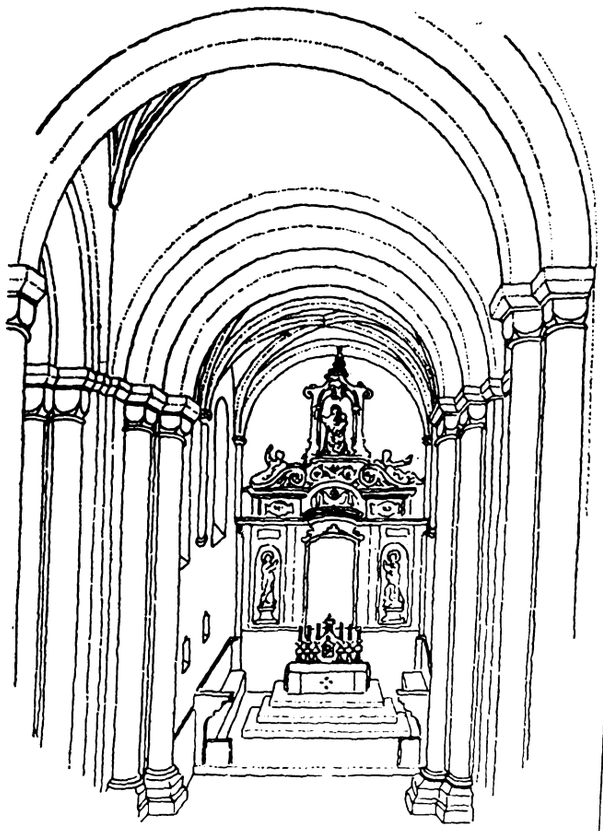


FIG. 4.—INTERIOR OF CHOIR.—THE ABBEY CHURCH OF MESSINES, NEAR YPRES.

The towns and villages which we have just described have been, so far, saved from German ruthlessness, or have only had preliminary visits of inspection from the Uhlans; but behind them, towards the north-east, lies a line of "flaming villages red in the midnight sky," and devastated

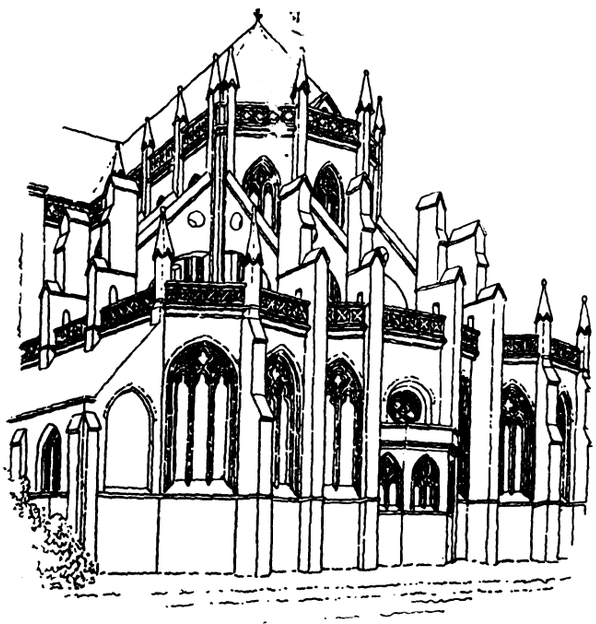


FIG. 5.—EXTERIOR OF EAST END.—THE CHURCH OF WERVICQ ON THE LYS.

towns which have suffered almost to extinction, and are the aim of almost continual bombardments; chief among which are Roulers, Dixmude, and Nieuport.

Of these Roulers, or, as the Flemish call it, Rousselaere, standing in the midst of fine open meadows, is still a most important centre of the cloth trade and seat of the manufacture of a particularly fine linen, principally used for ecclesiastical purposes, called after the place *rollette*. It has a large market-place, in which stand the ancient belfry and the Stadhuis with its spire; while the fifteenth-century church of St. Michael, also with a spire, contains some curious Renaissance woodwork. We have not heard that any of these buildings have, as yet, suffered to any great extent, but on the line further west and towards the sea we find in Dixmude a town which has been almost wiped out.

Dixmude was already a place of some antiquity when Count Guy fortified it in 1270, and had become of such importance in 1411 that John, Duke of Burgandy, rebuilt the walls. It retains, however, little dating from these far-off days, except its great church of St. Nicholas, which became parochial as early as 1045 and was rebuilt in 1144; but the tower standing at the end of the south aisle is perhaps all that remains of that period, as the church was again rebuilt in the following century. The great feature of this church is—have we to say was?—the wonderful rood-screen almost, if not altogether, the richest of the Belgian series, in the most intricate flamboyant style, which might almost be characterised as baroque Gothic. It consists of five nearly equal bays, the centre forming the opening to the choir, the adjoining ones fitted with open screenwork, and the end ones containing altars. All the mouldings usually horizontal are twisted and twirled in

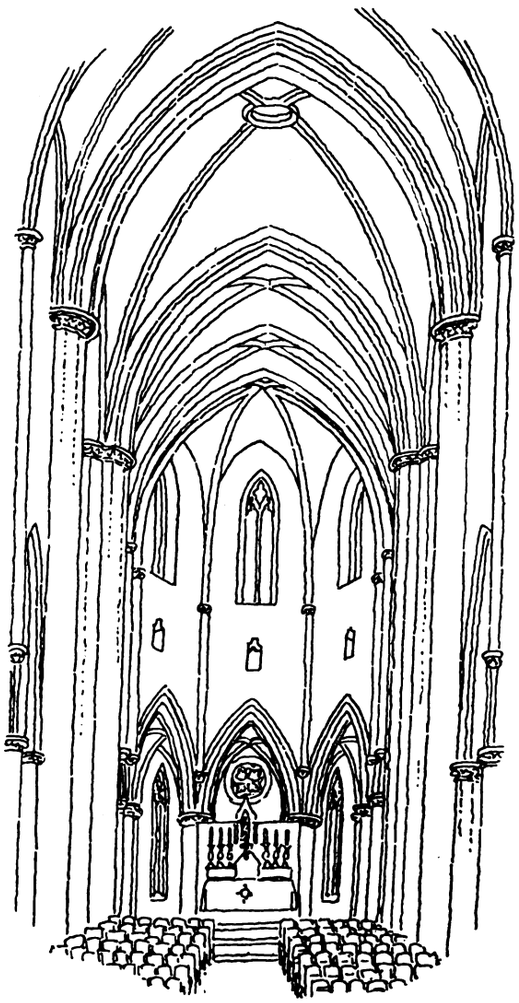


FIG. 6.—INTERIOR OF CHOIR.—THE CHURCH OF WERVICQ ON THE LYS.

an almost grotesque manner, and in such a way as to make the screen almost impossible to sketch, and would drive a quantity surveyor mad if he had to attempt to take off all the "labours" on the stonework; while the fringing of the great arches and the cusping arranged over them, the wealth of foliage carving., and the numerous statues enniched along the upper part of the gallery give a richness of effect impossible to describe. Such was the rood-screen, which the Germans have probably destroyed together with those of Louvain, Aerschot, Lierre, and Tessenderloo. An interesting point to remember in connection with the Dixmude screen is that as late as 1640

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it was the custom for the Deacon to chant the Gospel at High Mass from the rood loft. Another thing which the church contained and worth mentioning was a font of marble and brass, with a statue of St. John the Baptist and a crane to lift off the cover, of the date of 1626.

Passing on towards the coast we come to Nieuport, which has been bombarded by friend and foe alike, including the English ships, and must be so knocked about as to have had most of its architectural features destroyed. Nieuport has from the outside the aspect of a fortified town, though the walls have to a great extent disappeared, one of the angle towers only now remaining; but the town retains its old compact plan, and its grass-grown streets are undisturbed by the passing tram-cars from Ostend to Furnes which make a detour round the place. In the Grande Place is a fine old building, now used as a warehouse, which was once the Halles, and attached to one end of it is the ancient belfry, the lower part dating from the thirteenth century, raised to its present considerable height in 1480. The once large church was originally a three-aisled transeptal building, but in 1834 the aisles and chapels had become ruinous and were pulled down, and a fine series of monumental brasses were sold as old metal. Perhaps it was at the same time that the ancient rood-beam, from which lamps were suspended, was removed, the sawn-off ends of which can still be seen protruding from the walls; but a magnificent Renaissance rood-screen still remains, some portions of the lower part of which may date from the fifteenth century. It consists of three flat elliptical arches, with a gallery above containing the statues of our Lord in the centre, and twelve others. Fortunately, particularly if it has been quite destroyed, a photograph of it is to be found in Vol. IV. of Yssendyck's monumental work. In the sacristy of this church are preserved, among other things, the embroidered vestments which formerly belonged to the English Carthusians.

Among the dunes, between Nieuport and the sea shore, stands a tall hexagonal tower surmounted by a stunted spire, which is one of the two lighthouses built by Count Guy de Dampierre in 1284 to show the mouth of the Yser up which the English ships are now making frequent excursions.

[ROMAN LONDON.

At a meeting at University College, Gower Street, W., of the London Branch of the Historical Association, on the 30th ult., a lecture was given by Professor F. J. Haverfield, LL.D., D.Litt., V.P.S.A., of Oxford, on the above subject.

There were, he said, some six questions which might be put. In the first place, Why was there a London at all? Others were: When did it begin? What was the earliest Roman London like? What importance ought we to attach to London in its earliest days? What happened to London after the Romans went away?

Three geographical reasons had produced London. In the first place, London possesses an excellent harbour, which can be left and entered in all weathers by all ordinary ships. It is situated, like Antwerp and Bordeaux, a good way from the sea. It is removed from all ordinary attacks. It is at a place where the river can be crossed. And there is capacious harbourage for ships. But London is more than all that. It is extraordinarily central to Britain. London is not, indeed, in the centre of England, but at one of those points which are even more central than the centre. England, west of the Severn and south of the Trent, is an undulating plain which possesses no marked strategic features, and offers no great physical hindrances to trader or soldier. From London in Roman times roads issued in all directions—south-east to the Kentish ports, north-east to East Anglia, north-west towards Shrewsbury and Chester, west to Bath and Exeter, and to Gloucester and South Wales. Only one other site in England combines somewhat the same advantages as London. The estuary of the Itchen forms as fine a harbour as the Thames, and is within reach both of the Continent and France. Therefore Winchester was for a while capital of England. But if near it is not very near either to the heart of England or to the French coast. Therefore neither Winchester nor Southampton can ever permanently rival London. A third important geographical reason is that London lies close to the east coast of England, and this east coast lies close to and open to the European mainland. Many people have forgotten that England was connected in a very special way with the Continent. The lowlands of England lie on the east side, and a similar country lies on the opposite shore.

We have no evidence to tell us decisively when London began, and whether it existed before the Roman occupation. It certainly has a Celtic name. That, however, proves very little, as is shown by the derivation of Chicago, which bears an Indian name (the choice lies between "skunks" and "onions"). Yet the Chicago site was desolate before the white man built there. The name Londinium means the "dwelling (or land) of Londinos"; and it did not seem to show anything more than that a certain mythical Londinos lived there. Archæological evidence does not take us much farther. It is true that a few Celtic objects dating from about 100 B.C. to A.D. 43 have been dredged out of the Thames. One such is a remarkable bronze enamelled shield found in the river at Battersea and now in the British Museum, which may be put a little earlier than the Christian era. But this was probably dropped from a boat or otherwise lost; it might indeed be a vestige of the fighting against Julius Caesar. On land, in London itself, hardly anything has been discovered which suggests that Britons were dwelling on the site just before the Roman Conquest. It is clear that either there was no pre-Roman London or that it was a small and undeveloped settlement, which may have been built on the south bank of the Thames. Some pile-foundations near Walbrook have been interpreted as Celtic pile-dwellings; but they are much more likely to have been Roman work. There have been found a few pieces of Roman pottery which undoubtedly date from before the Roman Conquest in A.D. 43; but they were met with in districts as far apart from Roman London as Southwark. Ptolemy implies that London was a city on the south side of the Thames, in the territory of the Cantii. Southwark may have been the original London.

Tacitus states that within seventeen years of the Roman Conquest by Claudius, Londinium was already a full-grown, though unwalled, town, crowded with merchants and goods, and hardly less important than a regular municipality. It is not easy to determine the exact locality or the extent of the earliest Roman London. It must have been much smaller than the later town, which roughly coincides with the present city. Walbrook probably formed its western boundary, and it extended to the marshes just east of the Tower. Neither is it known for certain where the Romans crossed the Thames. It may have been on the site of London Bridge; but one would have expected some trace to have been met with of the original pile or foundations. There is another theory which gives the crossing at Westminster. It is agreed that a Roman road, Watling Street, ran through Canterbury and Rochester towards London, and its traces can be followed to-day with reasonable certainty as far as Greenwich Hill: here they vanish. The new suggestion is that, instead of crossing the Thames close to London Bridge, it went straight on through Deptford, Newington, and Lambeth, crossing near Westminster Abbey. Westminster was undoubtedly an eyot in the river, and some Roman remains have been found on it; but the latter are all of a late date—probably two hundred years after the first settlement. The theory has many other difficulties which make it difficult of acceptance, and it fails to overthrow the older belief that the road crossed at London Bridge.

The extent of the subsequent Roman London has been ascertained with some accuracy. The town wall can be traced by its foundations almost all round. They include an area of 322 acres. This may be compared with Roman Cologne (240 acres), or with the larger towns in Roman Britain, like Cirencester (240 acres), Verulam (200), Wroxeter (170), Silchester (100). This area of 322 acres was almost wholly filled with buildings. Outside the walls there were very few dwellings. In character and composition the town walls were uniform throughout, except in the bastions. It was built of local Kentish stone, without any mixture of used-up material, and planted on the clean gravel subsoil; nowhere does it seem to overlie earlier structures, whether houses or tombs. It stood 20 feet high or more and 8½ feet thick near the base; it was composed internally of rough stone and mortar, faced with regular courses of smallish dressed stones and bonded at intervals of about 3 feet with double and treble layers of tiles which run right through the wall. Of the gateways little is known. Newgate is the only one of which we have any satisfactory evidence: it had a double entrance with flanking towers.

The wall, apart from its bastions, was obviously built all at one date. But two distinct views have been held about

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this date. One party maintains that it was erected towards the middle or end of the second century. Others prefer the age when the barbarians began to trouble Britain, the opening of the fourth century. The evidence suggests that probably the walls belong to the beginning of the third century.

As to the houses inside the walls, one can say that, though a great many antiquities have been found, very little is really known about them. Not one single line of street is known for certain. There is no doubt that Londinium would have been laid out in a chess-board or rectangular fashion pattern. Mr. W. R. Davidge, in a recent paper before the Royal Institute of British Architects, had argued that it was possible to trace in the streets of the city to-day some vestiges of that rectangular planning. But his attempt to prove this contention must be regarded as a failure. His supposed traces nowhere coincide with the lines of later streets, nor do they seem to end in known Roman gates. It is, in fact, impossible to go along any London street to-day and say with certainty, "Now I am walking along a Roman road." This, however, can be done in towns like Chester and Gloucester.

That nobody has succeeded in getting in London the complete plan of a Roman house is perhaps the fault of the contractors. A great many objects, however, have been found which point to a city of great prosperity and a high civilisation. Some excellent statuary, for instance, has been brought to light.

London in the fourth century was certainly a place of importance. It was a mint, a see of a bishop, and had the title of "Augusta." But after A.D. 400 we get no reference to it whatever. In 600 it was made by Augustine the see of a bishop. Possibly London ceased to exist between those times. Nothing Roman has been found to suggest that Roman Britons dwelt in London long after A.D. 400. Nothing Saxon has been found to suggest that the English occupied it till some date in the sixth century.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

At the opening meeting of the new session the President, Mr. A. F. Watson, F.R.I.B.A., gave his inaugural address, and commenting on the suggestion brought before the City Council on Monday that in the revision of the Corporation by-law regarding damp-courses, bitumen sheeting should be excluded, said he hoped the Corporation would consult the architects and builders of the city before deciding upon such a stringent by-law, for in his opinion the proposed wording of the revised by-law would be very detrimental to the interests of the public. He did not consider it was either advisable or right to confine damp-courses to sheet-lead, rock asphalte and blue brick, as was proposed.

Town planning had certainly created a large amount of correspondence and talk in the city, but so far, they were told, had not made much headway, but had given a great deal of trouble and annoyance to owners and agents of large and small estates. The municipal authorities were generally very anxious to get hold of property at the least cost, and to widen roads outside the city which, in the opinion of the authorities, would benefit the public. But in the city, where street widening would have been very beneficial to the citizens at large, two cases had been lost sight of where the opportunity had occurred to widen streets with advantage when the old buildings were removed. He alluded to York Street and George Street.

The erection of large and important buildings in the city had been few during the past year, but there was one in High Street which would be a great improvement to the street when completed. In regard to the extensions of the Municipal Buildings and Lodge Moor Hospital, he could not help mentioning what he considered somewhat of a hardship, and that was that the Corporation should have considered it necessary to have the quantities measured by London surveyors. He supposed it was because the City Architectural Department was too busy to do it. There were plenty of architects and quantity surveyors in Sheffield—citizens who were paying rates—who were well able to do the work, and some of them probably none too busy Mr. Watson mentioned that the Vice-President (Mr Charles B. Flockton) is now serving his country, while they were proud that there had been such a good response from their members to swell the ranks of his Majesty's Forces.

It was stated that thirty-four representatives of the profession in Sheffield and two from Rotherham had joined the Forces.

At the meeting there was exhibited a collection of drawings and sketches by the late George Devey, as to which Mr. W. S. Purchon, M.A., A.R.I.B.A., has furnished the following explanatory note:—

It may first be of some slight interest to put on record the manner in which this charming and interesting collection came to Sheffield.

In August of 1914 Mr. Arthur Keen, a member of the Board of Architectural Education, asked me if I would care to have some of Devey's sketches, as Mr. James Williams, Devey's partner, was anxious to dispose of them to someone who would be able to make good use of them.

I naturally informed him that if I received the drawings I would guarantee that they would not only be useful to me and to my students, but that they would be highly appreciated by all in Sheffield to whom architecture means something more than a somewhat precarious method of making a living. I also promised that the drawings would be given a permanent home where they would be carefully preserved. The best method of carrying out the latter promise appeared to be that of presenting them to the University Library, and this step has therefore been taken.

Highly as these drawings of Devey's have been appreciated by those to whom I have shown them, it occurs to me that there may be some who will think them so slight and trifling as to be of little moment.

In justice to Devey it must be pointed out that these drawings we have received are not the pick of his work, as a large collection of his sketches was first sent to the R.I.B.A., but it seems to me that the Sheffield collection is not only a valuable record of architectural activity at a most interesting period in the development of the art in England, but it is clearly the work of a man who was an artist to his finger tips, and who thoroughly loved his work. Even the slightest of the sketches we have received is full of life and charm.

George Devey was born in 1820 and died in 1886. He is stated to have studied under the artists John Sell Cotman and J. D. Harding, and doubtless to those early studies he owed in large measure his extraordinary facility with pencil, pen, and brush. He was articled to a Mr. Little, a surveyor, and Devey and a fellow-pupil, Stone (the father of Mr. Percy Stone, architect), travelled in Italy and Greece, making many charming sketches.

Devey started practice in the 'forties, and was elected a Fellow of the R.I.B.A. in 1856. His first work of importance seems to have been the restoration of Penshurst Place in 1851. About this time architecture in England was almost entirely frigidly cold Classic, or almost equally cold Gothic. Devey loved the work of the middle ages, but he was one of the first of the nineteenth-century architects to perceive the charm of the work of our early Renaissance designers, and the fact that a freer type of design might possibly be more suitable to the requirements of his time than copies of the work of either the Greek or Gothic period.

Devey was also a lover of the delightful cottages which are to be found in so many of our English villages. Early in his career he was a master of the design of lodges and cottages, many of these harmonising so well with their surroundings that they have often formed the subject of sketches and photographs.

Working on the lines already indicated, Devey designed many large country houses, and in so doing prepared the way for Norman Shaw, Philip Webb, and Nesfield.

This is clear from the fact that in 1856 he designed Betteshanger, near Dover, for Lord Northbourne, while Norman Shaw, who was born in 1831, did not design Lowther Lodge until 1870, and Nesfield, who, with Shaw, is popularly supposed to have started the new movement, was not born until 1835, and was serving his articles between 1851 and 1853 in the office in which Shaw was a pupil. Devey died in 1886, his partner, Mr. James Williams, to whom I have already referred, becoming his successor. That Devey is so little known is certainly not because his work was either inferior in quality or small in quantity, for it was on the contrary both delightful and extensive; rather is it because Devey was essentially a man of quiet, modest, and retiring disposition.

THE Commercial Intelligence Department of the Board of Trade are prepared to supply the name and address of a Montreal firm (established for upwards of seventy years) and also of an agent in Vancouver, B.C., who wish to represent United Kingdom manufacturers of building materials.

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THE ART OF ENGLISHMEN.*

By Mr. Roger Oldham.

To-night I purpose speaking of Art and Englishmen, of duty and faith, beauty and the soul of things, of truth and the meaning of life and liberty. You will not ask me to define these things. I could not if you did.

We know that art is long and life is short; we know that art is the attempt to express the meaning of life, and that we would lay down our life for England, but we know not clearly why.

George Gissing, a Manchester man, wrote this at the end of his life:—

"Among the many reasons which make me glad to have been born in England, one of the first is that I read Shakespeare in my mother tongue.

"Let every land have joy of its poet; for the poet is the land itself, all its greatness and its sweetness, all that incommunicable heritage for which men live and die.

"As I close the book, love and reverence possess me.

"In the love and reverence awakened by that voice of voices Shakespeare and England are but one."

I will now read the words of another Mancunian—Filson Young:—

"It was not from basking in sunshine that our British ancestors acquired the qualities which they have transmitted to us, but from sitting long days in the forest listening to the rain pattering on the oak leaves. Strong sunshine never disposed any race to work or activity of any kind, mental or physical, but only to philosophy and contentment, and a certain sensual savouring of mere existence. Sunshine infects us with contentment with things as they are; the message of the mists is an active discontent, and an impulse to set about one and create a new condition, and to go forth and discover what lies beyond the mist."

The climate of a country moulds the character of its inhabitants; this is a universal law, and to-night I want to trace the influence of climate on the character of the people as shown in a study of their home, their methods of building, the mastery of man over the limitations of his materials, and over the disadvantages of soil, sun, and weather.

National Art is ever the expression of national character. The philosophic East, with its unchanging calm, the dwellers in tents, with their rich embroideries and Oriental splendour. The mysterious grandeur of Egypt; the beauty of Greece, and the strength of Rome; the mediæval glories of Italy, the mannered stateliness of France; the trim neatness and matter-of-fact simplicity of the Netherlands; the austerity of Scotland, and the homeliness of England—each nation has its separate individuality, whose characteristics can be clearly analysed alike from either its homes or its inhabitants.

The characteristic of English life is homeliness.

Let me read you a description from the glowing pen of that fine lover of England and the English, William Morris:—

"Even in this our turbulent island, the home of rough and homely men, so far away from the centres of art and thought which I have been speaking of, did simple folk labour for those that should come after them. Here, in the land we yet love, they built their homes and temples; if not so majestically as many peoples have done, yet in such sweet accord with the familiar nature amidst which they dwelt that when by some happy chance we come across the work they wrought, untouched by any but natural change, it fills us with a satisfying, untroubled happiness that few things else could bring us."

The climate of England has much to do with the homeliness and simplicity of its people, and also with the charm and variety of its simple homes.

We are an island race, and our insular character is the result. Someone has said, "Every Englishman is an island." The sea around us and the grey and ever-changing sky above our heads, the fruitful earth, the green grass, and the babbling brooks and placid rivers, the little hills and quiet dales, all go to mould the men and the homes they have built for themselves and for their children.

We are individualistic, intolerant of discipline, inapt of combination. An Englishman prefers his own way to that of other people. He likes to work out his own salvation in commerce and the arts as well as in religion. The ancestors of the modern Briton were picked men from various races who had the energy to invade these inhospitable shores. They came and settled here and found that the land was good, and they became welded into the race, and have left their mark on the language and art and character of the people.

And then to the Island Race there comes the call of the sea, the call that makes them go forth and discover what lies beyond the mist.

The Englishman has gone forth to the ends of the earth, and has brought back the spoil of other lands. At one time the crusader has returned with Eastern embroideries, which still to-day influence the decorative arts, tapestries, pottery, and metal work. India, Italy, Byzantium, Normandy, Holland, Greece, and Egypt, all in their turn have contributed something to the national treasure house. But whether it be men or thoughts, words or arts, that have come to this little land, once settled here they, too, become part of the Island Race and its goodly heritage.

Just as nations and civilisations can be identified by individual characteristics, so when we come closer home we can differentiate between the architecture of various countries in our own little island.

We can distinguish between the homes of the dwellers on the wold or in the plain, the fenman and the dalesman, the downsman, the East Anglian, the Highlander and Lowlander, the dwellers in the forest or on the bleak cliffs that stubbornly wage an unequal fight against the wintry gales and the cruel northern sea.

These differences of type of the homes of the people are remarkable, although the plan (the internal arrangement of rooms, and doors, and fireplaces) does not vary much. In Suffolk and Norfolk flint and brick walls and pantiles meet our gaze wherever we look—these cheerful cottage-homes, nestling round the bare flint churches, together with wonderful old barns with their steep pitched roofs of thatch. Somerset and Devon give us plastered and whitewashed, untidy, cob, and stone walls and roofs of thatch. Half timber and brick, brick and plaster walls in Warwickshire and Worcester. Kent, Sussex, Surrey, brick and timber, plaster, weatherboarding, and weather tiling and roofs of tile. Gloucester and Oxford give us dainty homes of little stone slates and walls of well-wrought stone. Cheshire and Shropshire half-timber and great stone-flagged roofs, and Derbyshire quite a different type, walls, mullions, and roofs of stone. Yorkshire and Lancashire and the North Country give us also these plain, rough, sound, and sincere homes of the men whose lives and character seem to be such part and parcel of their surroundings.

Wherever we go we find a rhythm and harmony between the landscape, the dwellings, and the children of the soil. A Welsh cottage of the locally quarried stone and Bangor slates and the background of the hills are a picture that gives a colour scheme that gladdens the hearts of artists like David Cox or Anderson Hague; but Accrington bricks and these same Welsh slates have given a vulgar uncomfortable air to some of the pretty little villages that nestle on the Yorkshire cliffs. An Oxford village, with its beautiful lichen-covered roofs and tiny slates, like an Oxford college, seems fitting background for peaceful thoughts and dreams of noble deeds. A Cheshire cottage, with its solemn toned roof of stone or thatch and walls of black and white, and base of mossy red sandstone with the damson trees and the lush pastures and the lowing kine, a gently sloping upland dotted with old trees for background—this picture speaks to me of Caldecott and the very spirit of homely cheerfulness. There is a little book by Mrs. Ewing, with a very beautiful prologue and a frontispiece to illustrate it by Randolph Caldecott, and if ever a picture illustrated the text that one does. Caldecott knew Bowdon very well, and loved it; so also I believe did Mrs. Ewing; and I always feel that in those opening pages of "Daddy Darwin's Dovecott" we can breathe the air of Cheshire here.

The black-and-white cottages of this part of the world are the types beloved of sentimental people. As a curtain in a theatre or a background for the stalls of a bazaar, the suggestion of pseudo-homeliness in the frontage of a public-house, the Cheshire cottage is model for all these. The original is caricatured with a wanton disregard for the real origin of its charm. The speculative builder with romantic tendencies plants on the plasterwork of a house a few thin uprights and cross-pieces, and dignifies it by the name of half-timbering. Such a treatment is at best stage-carpentry, a melodramatic travesty of the original methods of construction.

* A Paper read before the Manchester Society of Architects on November 11.

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In no building has the construction been so deliberately made the foundation of all that was interesting and beautiful in the design as these old cottages, for, with the exception of the small pieces of wood that helped to make the geometrical patterns and diapers of black and white, no timbers were introduced, except for some definite work in holding the building together.

Whether the result was to be simple or elaborate, it was always based on the main lines of construction. Whitewashing brickwork, and painting patterns and black shields on it, 1-in. boards and plenty of iron nails, are not old Cheshire for a minute.

Up towards the hills of Derbyshire, where stone is abundant, the character of the cottages changes. There are folds and lonely farms upon the moors of rough stones and whitewashed; and in the wooded vales we come across half timber and stone cottages side by side. These varying types of stone and timber are also to be found where the soft red sandstone crops up—in the Wirral at Frodsham, and nearer home in the little gem, the mill in the Park at Dunham.

Having devoted some time and detail to Cheshire, let us now examine the architecture of another part of the country—Norfolk. We shall find here very strong contrasts to Cheshire work. I select it for that reason, and also because I have spent many summer holidays down there.

There is something in the climate of Norfolk which seems to have bred artists in time past. In fact, it is a very interesting point in the study of this subject to try and discover why this is so. Gainsborough and Constable were born a little further south, but only a little. The Cromes, the Cotmans, Stark, Vincent, Daniels, Bright, Cattermole—all the brilliant stars of the Norwich school were born and lived within a few miles of one another. And many names little known to the outside world are found on drawings and etchings and paintings in the Norwich Museum and in country houses up and down the county. The standard of painting here and the large number of capable painters fifty to a hundred years ago are quite remarkable. And if we go back to the old churches and barns of the middle ages and the splendid Elizabethan halls we find a standard of workmanship and tricks of fancy that stir the blood and make one wonder again and again how came it that the Norfolk tradition has been so long and nobly sustained.

If you go to Lynn, or down the line of the glorious marshland churches from there to Wisbech, or make pilgrimage to the city of Old John Crome and George Barrow, you time and again feel that you might have been journeying in Holland—the land of Rembrandt and the mill, of Ruysdael and Hobbema, the land of the Dutch school and all that that means. The landscape, the industries, the amusements, the figures, the architecture and the great rolling clouds, the infinite distances, all recall the etchings of Rembrandt, Ruysdael, and Waterloo. Let one look at "The Three Trees" of Rembrandt, and then at the "Mousehold Heath" of Old Crome of Norwich; Hobbema and Stark, Gainsborough and Wynants, Rembrandt and Cotman, seem to be members of one great family knit together by common ideals and common joys and sorrows.

The commercial relations between East Anglia and the Netherlands were intimate and far reaching in their effects.

When Crome was a struggling student, seeking for guidance and sympathy, he was shown by some of the old country gentry of his neighbourhood paintings of his brothers of the brush (brothers across the centuries), the old Dutch masters, and the spark then lighted all the heaped-up material of innate genius and climatic sympathy, and gave to the world the never-dying splendour of the works of the great East Anglian. I like to dwell on Crome, his life and character in relation to the architecture of his county. For he was a man little known to the great world outside his native shire. He was born in a little public-house at Norwich, and he lived and died in the quiet English country town that he loved so well; and its fragrant memory will for ever remain imperishable in his paintings and etchings, however the go-ahead influences of now or the future may wipe out its memorials and confuse its traditions.

Old Crome has his pen-portrait in Lavengro lovingly and loyally drawn by his fellow-citizen, who loved too the day and the night, the sun, moon, and stars, and the wind on the heath.

Men like these, be they painters or village craftsmen, have kept the sacred flame alight and handed it on to their children's children, and we can learn from these humble homely masters the secret of England:—

"Not the great nor well bespoke,
But the mere uncounted folk
Of whose life and death is none
Report or lamentation."

The lesson is for each one of us a direct appeal to search for—

"Treasure hid,
Thy familiar fields amid.
At thy threshold on thy hearth,
Or about thy daily path."

Each county has its own particular prophets, and some counties seem to possess a school of prophets. Some are born there, some are drawn there by sympathy of temperament. Take Sussex for instance: that has such lovers as Rudyard Kipling and Hilaire Belloc, E. V. Lucas and Richard Jefferies; the name Wessex brings at once to our lips the honoured name of Hardy, Dartmoor and Eden Philpotts, Morris and the Cotswolds, Shakespeare and Arden, George Borrow and Norfolk, Kingsley and the Fens, Arnold Bennett and the Five Towns. I will not stay to rehearse the long line of lovers of the Lakeland or the prophets from Wales with their poetic perorations.

I have not quoted architects to-night, but writers who have written of architecture and their native art because they loved it. To me the statue of Tennyson, with the background of Lincoln Cathedral, speak to a Lincolnshire man in language which cannot be expressed in words. The message is not of moldings or of dates and styles, but it is just the rhythmic sweet accord of the architecture and the poet, the Lincolnshire building and the man.

The same subtle sympathy links together in our minds the names of Lamb and the London of his day, of Gissing and the drab streets of our own time.

This passionate unfaltering love of the old country is an Englishman's greatest possession. May I quote one more instance? One from the poet of the West Country, Henry Newbolt. The salt spray is on our lips, and though the tears rise in our eyes there is pride in our hearts as we read "The Death of Admiral Blake":—

"Low on the field of his fame, past hope lay the Admiral triumphant,
And fain to rest him after all his pain;
Yet for the love that he bore to his own land, ever unforgotten,
He prayed to see the Western Hills again,
Only to look once more on the land of the memories of childhood,
Forgetting weary winds and barren foam;
Only to bid farewell to the combe and the orchard and the moorland,
And sleep at last among the fields of home."

Three practical suggestions I would like to make:—

(1) That we should individually do all that we can to support the claims of the Walpole Society. Every Library and Literary Society in the Empire should be a subscriber, for to know England is to love it, and to love it is to be ready to die for it.

"Scholars are at last beginning to realise that the Englishman in the days gone by who painted the walls of our churches and fashioned the statues, the gargoyles and the misereres, who illuminated the manuscripts and carved the ivories in mediæval England, were in no wise inferior to the much-vaunted Italians and the craftsmen of the countries on the other side of the Channel."

(2) Every parish in the country should feel it its duty and privilege to make record of its own history, to jealously guard its literary and artistic memories. Suburbs should preserve their ancient monuments and amenities, honour their local celebrities, and study and note well the lessons of their former industries.

Hilaire Belloc continually emphasises the importance of these things:—

"You may travel," says he, "for the sake of great horizons and travel all your life, and fill your memory with nothing but views from mountain tops, and yet not have seen a tenth of the world; or you may spend your life upon the religious history of East Rutland, and plan the most enormous book upon it, yet find that you have continually to excise and select from the growing mass of material."

"Was I not right in saying that everywhere in the world one can look in and never find an end to one's

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delight? I began to explore but a tiny corner of England, and here in a corner of that corner, and in but one thought arising from this corner of a corner, I have found these things."

(3) Don't sneer at Gothic, or despise the place in which you live. The past is your heritage, the present is your privilege, and the future is bound up in your use of these two things.

The character of a nation or of any individual is a difficult thing to analyse and to put into an index.

We can learn something of England by studying the works of William Shakespeare, the life of Dr. Johnson, the paintings of Reynolds, Turner, Millais, the Pilgrim's Progress, and Lincoln Cathedral.

But this evening I would plead for the common soldiers of the Army, who also have done their share. Though their names are little known beyond their native villages, they too are Englishmen. The builder of Broadheath Bridge marches shoulder to shoulder with Sir Christopher. Henry Liverseege, son of an Ancoats millhand, fights side by side with Charles Dickens in the cause of a common humanity. The Flodden window at Middleton was erected to the glory of God as much as the Five Sisters at York.

We have no ambition to be Junkers, and no intention of being slaves; we are a homely people, and homely people always have (though they may not be able to express their sentiments in fine phrases) a love of honesty in construction and diplomacy, a tenderness for children and little nations, a passion for the right of individual expression, which men call liberty; a patience and power of endurance, which are the fine fruits of suffering; an instinct for sport, which fosters a love of dogs and also of fair play; and, above all, an abiding sense of humour that makes men in the crisis of their lives see things in true perspective. This sense of humour, which through the long years of our island's story has kept flowing an undercurrent of sanity in the life and work of these mad Englishmen.

The main argument of this paper was written down in times of peace—an attempt, honest at least, to analyse the deep-rooted principles that are at the foundations of our national art.

To-night these thoughts I put before you, knowing that speaking among old friends you will pardon this essay's shortcomings, and accept it as a tribute of humble love for the country of our birth, and of pride in the deathless army of great souls who, with pen or brush, spade or chisel, have made that love articulate to those who came after them.

More particularly have I spoken of those whose names are not in art text-books or on earthly rolls of honour, but Englishmen who lived and died—

"For some idea but dimly understood
Of an English city never built with hands,
Which love of England prompted and made good."

This is a quotation from Masefield's "August 1914." It is the same deathless message of William Blake which was chanted by that great artist-poet to the rhythmic beatings of his English heart, when the country of his birth was threatened by a mighty foreign foe a hundred years ago:

"I will not cease from mental fight,
Nor shall my sword sleep in my hand
Till we have built Jerusalem
In England's green and pleasant land."

Blake did but take up the song of the seer of Patmos and his ear was attuned to the cry of the ancient Hebrew prophet, whose message is the message of the Eternal:

"He shall judge among the nations, and shall rebuke many people; and they shall beat their swords into ploughshares and their spears into pruninghooks; nation shall not lift up sword against nation, neither shall they learn war any more."

At the annual general meeting of the Governors of the Glasgow School of Art held this week Mr. Patrick S. Dunn was re-elected chairman. Sir John J. Burnet, LL.D., R.S.A., F.R.I.B.A., and Mr. Hugh Reid, D.L., were re-elected vice-chairmen. It was stated that over 100 past students of the school had joined the Imperial Forces. The students number 1,239. It was reported that the lending museum scheme, instituted by the School for the benefit of the higher grade schools throughout Glasgow and district, had proved very successful, many schools being greatly helped by the improved means of study thus placed at their disposal.

VERBAL FINAL CERTIFICATES.

Whether an architect's final certificate may be a verbal expression was discussed in a contractor's action before Mr. Justice Avory in the King's Bench Division on Friday last.

Messrs. Chafen & Newman, Ltd., contractors, of 96 Trundley Road, Deptford, brought an action against Messrs. Hamlyn & Co., of 37 and 38 Mark Lane, London, general merchants and grain dryers, for balance due on the construction of a concrete river wall at Upper Globe Wharf, Rotherhithe, the total cost of which was £1,162.

Defendants denied that the contractors were entitled to recover, since a final certificate in the form of a document was a "condition precedent," and no such certificate was ever given. They stated that penalties were due for variations from contract without the requisite "order in writing," and counterclaimed for £47 5s. for nine days excess of the contract time—three months—at five guineas per day.

Counsel for plaintiffs were Mr. Langdon, K.C., and Mr. J. J. Willis; and for the defendants Mr. Eustace Hills.

Mr. Langdon said he must admit there was no final architect's certificate in writing and no written order for what had been called variations. The architect died during the progress of the correspondence, and all counsel could contend was that the architect's approval of the work was implicit in the circumstances. The correspondence had run over years, and the writ was eventually issued for fear of the Statute of Limitations. The death of the architect, as arbitrator, he submitted, enabled his Lordship to assume jurisdiction. As to the final certificate, Roberts *v.* Watkins (14 Common Bench; New Series, p. 592) indicated that there might be circumstances in which a verbal expression of satisfaction by the architect was enough. A certificate of completion of a building contract might be given orally in the absence of specific provision to the contrary in the contract. Here the crucial clause in the contract was "payment will be made upon the certificate of Mr. John M. Knight, the architect, at the rate of 85 per cent. on the value of the works executed, and the balance three months after he has certified the works are completed to his satisfaction." In answer to the counterclaim, the time clause could not apply, because the defendants themselves, by withholding a plan, delayed the commencement of the work by seven days.

Mr. Alfred Chafen, plaintiffs' managing director, said the architect in August 1908 admitted that the work necessary to be done was three feet more than the plan showed, approved the charge for it, and for changes he himself had ordered—the driving of piles instead of mere deposit in sockets—and said he was perfectly satisfied with the work. Three years after Mr. Knight assured him he certified the account and said, "You ought to have your money."

Mr. Ernest Augustus Hamlyn, trading as Hamlyn & Co., stated that the architect never certified the work, and his expressions upon it to the witness were the contrary of satisfactory. They were both dissatisfied with it. Water percolated through and flooded the premises.

Cross-examined: Witness never told the defendants he was dissatisfied with the work, because the architect's final certificate had not been delivered. Witness met with a serious accident in 1912, a heavy garage door falling on him, and he was permanently paralysed. While he was laid up for a twelvemonth his brother saw to the correspondence.

Delivering judgment, his Lordship said a significant feature was that no trace of complaint that the work was not properly done appeared in the correspondence. There was great force in Mr. Hills' contention that the word "certificate" having been used in the contract in relation to the work as it proceeded, it might fairly be assumed that the contract meant there should be a written certificate at the end. But it was a recognised principle in construing Acts of Parliament and contracts to hold that the introduction of a word in a new form imported a new meaning, and the use of the word "certificate," in respect of the final survey brought the contract within the four corners of Roberts *v.* Watkins. An oral expression of satisfaction by the architect must be held to satisfy the use of the word "certified." Mr. Hamlyn, with an illness intervening, might have forgotten things that occurred before. The plaintiffs' approved account was to have been forwarded by the architect, and on September 2, 1908, Mr. Knight wrote the plaintiffs, "I called at Messrs. Hamlyn's, *re* your account, and found Mr. Ernest was away; as soon as he

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Alfred H. Hart July 20th 1887.

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Notre Dame
Bruges.
In brown brickwork

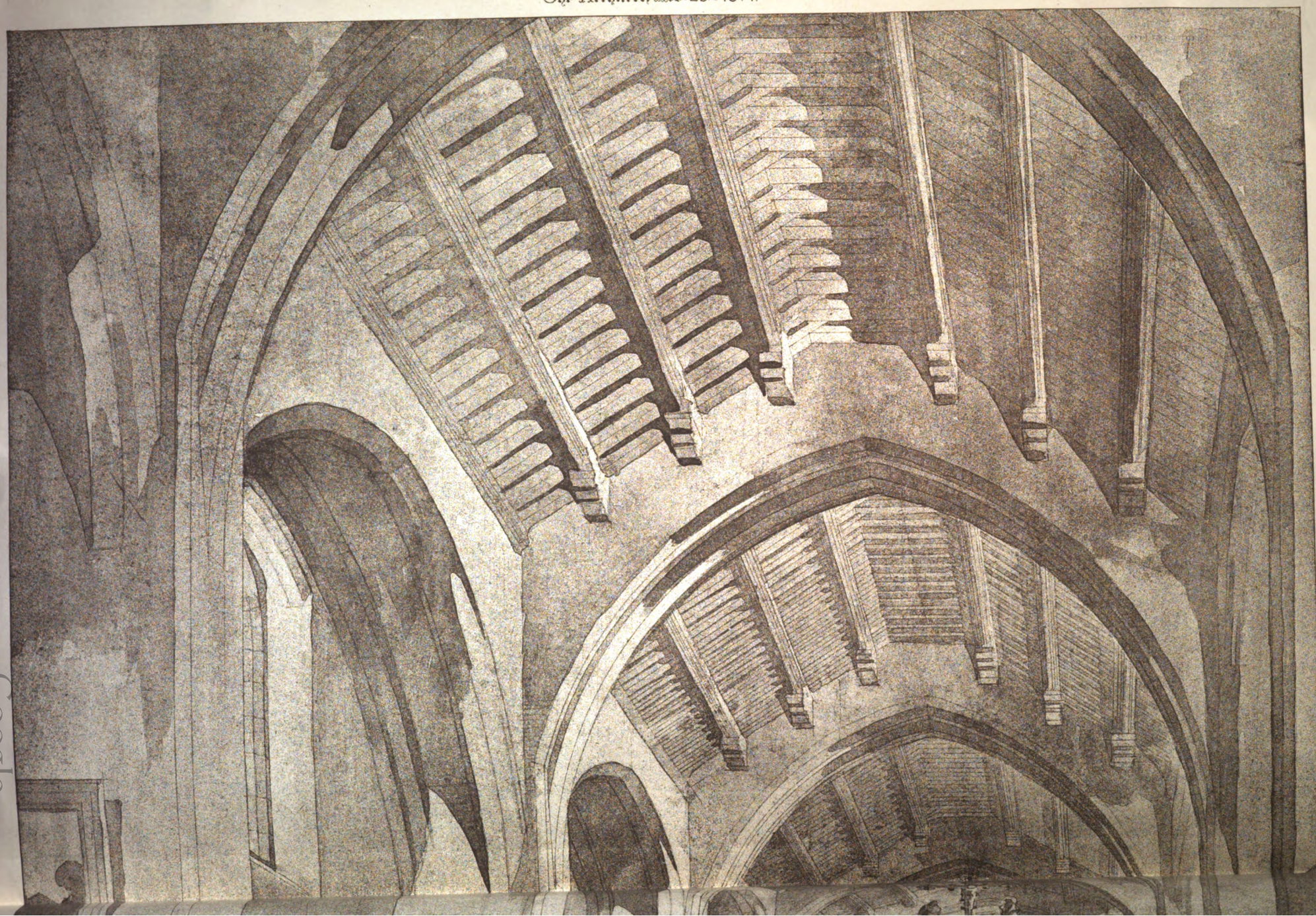
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THE CHURCH OF S. STEPHEN AT GRIMSBY.

Mr. WALTER TAPPER, F.R.I.B.A., Architect.

(Royal Academy Exhibition, 1914.)

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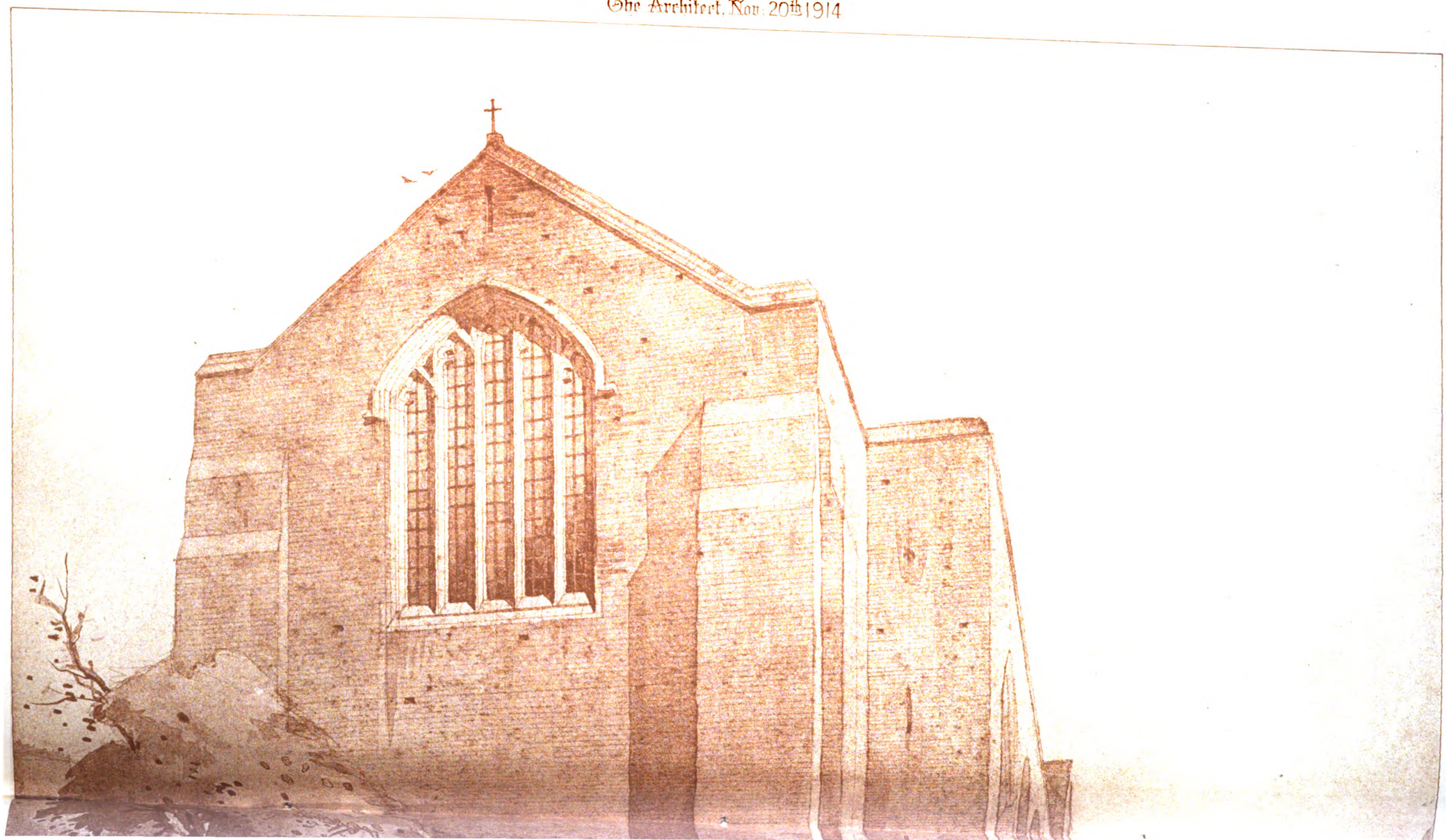


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returns I will see him and get the matter settled." Defendants' request for "particulars" in 1912 looked as though they had forgotten what the account was about. He found that the architect put forward the account as accurate, passed it on to his employer, and in that sense certified that the work was done and completed to his satisfaction. Defendants complained that £19 had been charged for extra walling without a prior order in writing. If a contractor signed a contract stipulating for orders in writing he must abide by it, but this was hardly an "addition" within the meaning of the contract. The specification was for "a concrete river wall" "in the manner shown in the drawing," and if the architect's plan showed 200 feet when the frontage to be covered was really 203 feet, the extra 3 feet was not an addition, and payment could not be avoided on the ground that no order in writing had been produced for it.

As to the counterclaim, the time clause could not be applied literally, for it was stipulated that the work should be begun on January 1; the contract, according to the defendants, was signed on January 15, and the plaintiffs declared (and he found they were right) that the withholding of the plan prevented its being commenced until January 22. Even so, they were two days over time. He found that the architect's oral expression was a sufficient certificate and gave judgment for the plaintiffs for £222 on the claim, with costs, and for the defendants for ten guineas on the counterclaim for late completion, with costs.

ART IN LONDON.

WINTER EXHIBITION OF THE ROYAL SOCIETY OF PAINTERS IN WATER COLOURS.

It may be always with a sense of approaching pleasure that a visit can be paid to these well-known Pall Mall East galleries, where at the present time the one hundred and sixty-third exhibition of the Water Colour Society is being held. The average of good work is a far higher percentage than we see at some miscellaneous collections, and is perhaps even higher on the present occasion than usual. A good deal in regard to proffered criticisms must necessarily be the outcome of the particular art critic's education, dependent upon the school of thought and criticism wherein he or she is raised, though it may be supposed that there will be tangential points where most criticisms will meet, and such points will doubtless appear in the following lines. We may or may not agree with the view embodied in the old saying that "Who drives fat oxen should himself be fat," but personally the present art critic holds that a certain, if only a slight, capacity for wielding the brush or pencil gives greater opportunity of just criticism than total inability to bedeck canvas or drawing surface. But there is one necessary accompaniment to all honest criticism, and that is an entire absence of prejudice or of bias. We must be prepared to see good in all schools, nor must we be afraid of condemning the work of those whom hitherto we may have seen reason to approve.

In this Exhibition there is a noticeable peculiarity in that some of the artists display work of a style variant from what we have been accustomed to in their several exhibits to date. And first of these to be observed is Mr. George Clausen in "Limehouse Reach" (3), which is pleasantly different to most of his dozen canvases; its brightness of palette and its conveyance of "atmosphere" deserve mention. In "Mount's Bay" (32) the sky is satisfactory, but the foreground colouring is crude, and such crudeness is accompanied too often in his sketches by a mere daub that is deplorable, the trees being unmodelled and the skies mere masses of amorphism. Mr. Hemy also shows a departure of style in "A Bass Fisher," but good as is the technique, it is not better than his more typical work, as instanced by "A Spanking Breeze" and two other canvases. Mr. Francis James is a third variant in style in "Apples" and "Honeysuckle," treated as patterns, and here we confess to a preference for his old style, as evidenced in "Zinnias."

Sir E. A. Waterlow continues his busy career upon his customary level of work; a level which, if not peculiarly striking, is yet distinguished for the manly treatment of his subjects; but special record should be made of "A Stubble Field" for its artistic perception of accordant tones, and "The Foreland, Pembridge," which we particularise by the granting of a blue ribbon. Mr. Albert Goodwin (though we cannot grant him one of the ten blue ribbons allotted by us) is, as always, noteworthy; his "Taormina" is fine work throughout, and "Lucerne" is good, but we are not attracted favourably by "War Clouds." The present crisis has proved irresistible to sundry artists, amongst whom is Mr. Matthew Hale with his canvas "In the Track of the Huns," but we see nothing to suggest this title, except it be that there is nothing but the bare ground. "The Walls of Parma" would be more satisfying were the buildings less flat, but to "Cattaro, Dalmatia," we are able to award a blue ribbon for its pre-eminence in this Exhibition. Another one is allotted to Mr. Robert Little for his excellent "Montrose" (17), where the whole "distance" is occupied by the grey blocks of the town, with a clear river in the middle distance, where the cows are slaking their thirst, and with the flat bank of the foreground, the whole interest working up to the portrayal of the city.

Mr. Henshall has blue-ribbon work of very good quality in "Light" and "War News," the same old man and woman appearing as models in each case. If the latter canvas provides the greater appeal, the former is, in our view, on the higher plane of art in the modelling and painting of "Darby's" head. Mr. R. W. Allan's work is good but does not call for detailed mention, but we must not pass by Mr. Arthur Hopkins without special reference to "Long Island," "A Beauty of Other Days," and "A Will-o'-the-Wisp," the second one mentioned being a good example of modelling and colour. Mr. Alfred Parsons (the President) has a very pretty piece in "Spring Blossoms," but we cannot linger before his work when in the neighbourhood of such charm as depicted by Mr. Charles Gregory in No. 45; and indeed his work elsewhere proves irresistibly attractive, as instance "San Remo," which we regard as one of the pre-eminent works in an Exhibition where Mr. Gregory has excelled himself. "San Remo" is all in the minor key, but so delightfully toned. Mr. Walter Crane, Mrs. Allingham, Mr. T. M. Rooke, and the late E. R. Hughes are all exponents of good work, of which we may make particular mention in the case of a chalk study of a "Child's Head" and "The Lesser Light" by the last-named artist; Mr. Rooke's "West Door, the Madeleine, Vezelay" (all of which are works of pre-eminence), and Mr. Crane's "St. George and the Dragon"—a typical design, where the dragon is shown as part eagle and is capped with a German helmet. Mr. Reginald Barratt's "Sta. Maria della Salute" is one of the most striking works in a good Exhibition; we cannot recall any portrayal of this church at all superior, if indeed equal. We must close here regretfully, as there is more work we should have liked to notice—and some which we should have had to condemn; but we must set the various exponents against one another and thus justify exclusion.

OLD AND MODERN BRITISH WATER COLOURS.

The work of some six dozen artists is displayed on the walls of the Leicester Galleries, and a careful inspection leads us to the conclusion that ancient and modern work balance each other in merit; for if in some classes of "subject" deterioration of style may be observable, elsewhere we are confronted by a higher level of attainment.

We regard the best work shown as being that by Peter de Wint, J. Fulleylove, H. G. Hine, Francis E. James, Herbert Marshall, and Mrs. Allingham; the last-mentioned is represented by one small piece only, but its quality is all we could desire. De Wint's work possesses at once a realism and an unforced presentment too seldom seen in conjunction; regard, too, the mellow tones and pleasant colouring in such of his works as "The Lock, Sunset," "Moorland," "Harlech Castle," and his dainty "Newport, Mon." Mr. Fulleylove's "Wren's Bridge, Cambridge," and "Paris" are both noteworthy for the colour effects.

H. G. Hine's Sussex paintings are almost beyond the somewhat inexpressive terms of praise; they are redolent of the peace of the countryside, and the spectator is, as it were, transplanted to the spot. Herbert Marshall (but a short while since a contemporary living artist) is represented by notable work in "Dordrecht" and "The Thames in Ice"; the latter is second to none in the Exhibition, with its soft distance of St. Paul's Cathedral, its vigorous foreground, and its snow-laden atmosphere. Mr. Francis James is a lover of floral Nature, and is able to depict his mistress's charms *à merveille*.

Mr. Wynne Apperley's "Grey-green Sea, Hastings," ranks in merit with some of the foregoing works, but his "Seville Cathedral" suffers from the absurd mutilation of the subject; scale and interest are both lost in consequence. Sir Ernest George has a thoroughly artistic archi-

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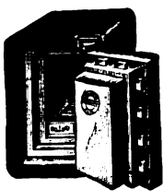
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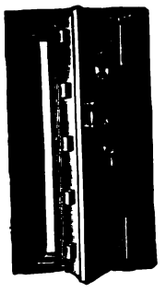
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tectural sketch in "Coire"; his work gives evidence of both knowledge and sympathy.

If Mr. Marshall showed the right way of depicting St. Paul's, certainly Mr. Clausen shows one of the wrong ways; in his sketch it is badly drawn and ill-proportioned, whilst the whole effect is a smear. Mr. William Strang's "Adam and Eve" is another instance of misdrawing, and is a poor conception of the parents of all flesh; the composition (if we may so term it) is deplorable, and if there be any grace in the figures at all, it is not allotted to the lady; moreover, Eve should not be shown as more bulky than her mate—more bulky and less beautiful.

Mr. H. Bellingham Smith's tinted drawings of Lewes and Miss Winifred Austen's "Young Rabbits" are good, the latter, indeed, being very good and showing an intimate knowledge of the "subject." Two sketches of Lake Maggiore may be regarded for their different treatment, Evelyn Buckton's being anæmic but pretty, whilst H. B. Brabazon's lacks in interest what it gains in vigour; but this artist's "Venice" is a poor sketch indeed, and is a useful foil (were such needed) to James Holland's treatment of the subject—bright, but not garish, and showing the local "atmosphere." Mr. A. W. Weedon's work is well known; "Craig Roy" is virile and realistic. In his other exhibits the distance is very well put in, whilst the trees are insufficiently modelled.

The displayed work of Messrs. Albert Goodwin, Edmund Dulac, and Arthur Rackham did not appeal strongly to us, and Mr. Connard's exhibits we like as little as usual. And Mr. Lee Hankey similarly holds no successful appeal for us; in "A Picardy Milkmaid" the cow is to all appearances carved out of a block of Pavonazzo marble. And Mr. Joseph Simpson's "The Model" is too cruel for words.

Mr. H. S. Tuke has an unusually good work in "Going Aloft," and preferable by far to "Waiting for Orders." Mr. R. Anning Bell's "An Offering to Ceres" shows good composition and chiaroscuro, and is very decorative. Further work of varying qualities we must refrain from noticing here.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Beaconsfield.—Church of St. Michael and All Angels (£7,600). Mr. G. H. Fellowes Prynne, F.R.I.B.A., architect, 6 Queen Anne's Gate, London, S.W. Messrs. Franklin, Ltd. (of Deddington), contractors.

CHESHIRE.

Birkenhead.—Council schools, Bidston Avenue, and Pilgrim Street.

Crewe.—Council school for 1,000 places.

CORNWALL.

St. Austell.—Mount Charles U.M. Church: Sunday School (£600).

CUMBERLAND.

Scalesheugh.—Ploughman's cottage, Wragmire, for Mr. J. H. Harrison. Mr. A. N. Paterson, F.R.I.B.A., architect, 266 St. Vincent Street, Glasgow; also Gate lodge, for Mr. J. H. Harrison.

DERBYSHIRE.

Shirebrook.—One hundred and fifty houses, for Mr. Crisp.

DEVON.

Brixham.—Sixteen Council houses.

DURHAM.

Chester-le-Street.—Council school (£4,820).

Frosterley.—Council school for 150 places (£2,350).

Ludworth.—Council school for 350 places (£4,200).

Waterhouses.—Council school for 500 places (£7,250).

Willington.—Fried fish shop, Kensington Terrace, for Mr. W. Dunn.

Proposed slaughter-house, &c., 83 High Street, for Messrs. H. Jopling & Son.

ESSEX.

Grays.—Joint Hospital: diphtheria pavilion. Mr. C. M. Shiner, A.R.I.B.A., architect, The Gate House.

Tilbury.—Workmen's dwellings (£34,820).

HERTFORDSHIRE.

Barnet.—The "Lord Nelson" Public-house: additions and alterations.

Workmen's dwellings (£6,750).

KENT.

Broadstairs.—Parish Church: alterations and enlargement (£4,000).

Chatham.—House, Maidstone Road, for Mr. S. Miller.

Cinema theatre, rear of the Empire Theatre, for the Chatham Empire Theatres, Ltd.

Gravesend.—Thirty working-class houses, Northfield House Estate, Northfleet.

LANCASHIRE.

Ashton-under-Lyne.—Council school, Mossley Road.

Blackburn.—Fire station. Mr. W. Stirrup, F.R.I.B.A., architect, 14 Richmond Terrace. Messrs. Marshall & Dent, contractors, Limbrick (£16,800).

Firemen's dwellings. Mr. Stirrup (as above), architect. Messrs. Cronshaw Bros., contractors, Nab Lane (£11,520).

Blackrod.—The "Ridgway Arms": rebuilding.

Royton.—St. Anne's School, Longsight.

Shaw.—Eight houses, Clarence Street, Heyside, for Mr. J. Barker.

LINCOLNSHIRE.

Bracebridge.—Asylum: extension. Messrs. Bosworth & Lowe, contractors, Hayden Road, Sherwood, Nottingham.

Lincoln.—Council school, Mount Street.

MONMOUTHSHIRE.

Llantarnam.—Fire station.

NORFOLK.

Norwich.—Nos. 60 and 62 London Street: alterations. Messrs. Bridgman (A.R.I.B.A.) & Bridgman, architects, Bank Chambers, Victoria Street, Paignton (also Torquay). Mr. J. W. Cullen (of Leicester), contractor (£860).

NORTHUMBERLAND.

Adderstone.—Council school.

NOTTINGHAMSHIRE.

Nottingham.—School for 500 places, Forest Fields (£6,800).

STAFFORDSHIRE.

Stoke-on-Trent.—Children's hospital and pavilion, for B.G. (£6,000).

SURREY.

Hindhead.—St. Alban's Church: completion (£1,600).

Limpsfield.—Ten working-class dwellings (£1,850). Mr. T. C. Barralet, surveyor to Godstone R.D.C.

Milford.—Sanatorium and hospital, Sattenham Estate.

SUSSEX.

Angmering.—Four working-class cottages, for East Preston R.D.C. (£800).

Worthing.—Council school, near Lyndhurst Road.

WARWICKSHIRE.

Allesley Park.—Cowhouse, Allesley Hall, for Mr. W. I. Iliffe.

Berkswell.—"Sunnydale": Proposed alterations for Mr. J. Hall.

YORKSHIRE.

Bradford.—Eight workmen's dwellings, Esholt Estate (£1,800).

Castleford.—Boys' Council school, Temple Street.

Gisburn.—Six working-class houses, for Bowland R.D.C.

Osbaldwick.—Wesleyan Sunday School. Mr. W. Whincop, architect, 31 Claremont Terrace, York.

Sheffield.—Sanatorium for women consumptives (£20,000).

WALES.

Bryn.—Forty-seven houses, for Margam U.D.C. (£9,700).

Ruthin.—Workhouse: infirmary. Messrs. Cash & Sons, contractors (of Coppenhall, Cheshire).

SCOTLAND.

Ayr.—House, Victoria Street (£550). Mr. R. Boyd, builder.

Shops and houses, George and King Streets, for the Kilmarnock Equitable Co-operative Society.

Brechin.—Co-operative Society's premises, the Prentice Neuk (£1,300 to £1,400). Separate trade contractors.

Cupar.—Cinema operating-room, Balmerino Place, for the Robert Adam Trustees.

Dundee.—School Board offices, City Hall.

Sub-station, Walton Street, for the Town Council.

Edinburgh.—Workshops for continuation classes, Bellevue site, for the School Board.

Glasgow.—Fire Station, Clyde and Hozier Streets, Partick: additions and alterations.

Dalmarnock Gasworks, Old Dalmarnock Road: extension for the Corporation.

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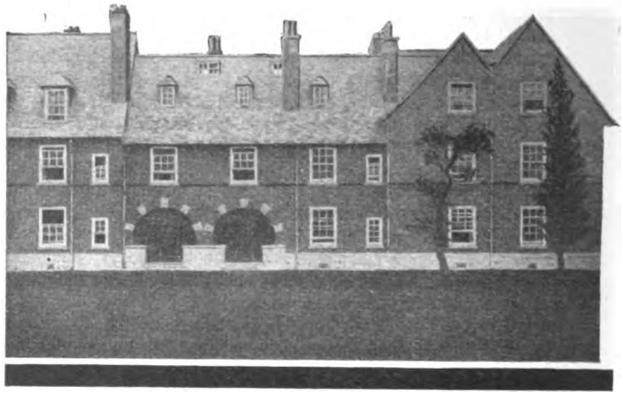
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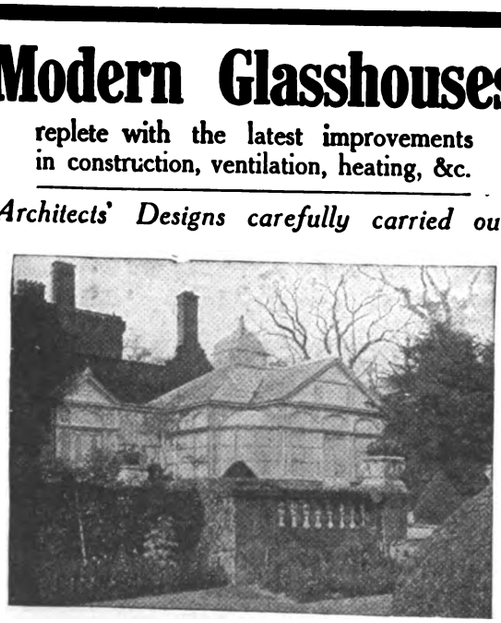
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SCOTLAND—*continued.*
GLASGOW—*continued.*
Sixteen houses, Woodend Drive, Jordanhill. Mr. J. Downs, builder, 620 Crow Road.
Seven lodgings, Auldhouse Road, Newlands. Mr. J. Baxter, builder, Woodhead Avenue, Kirkintilloch.
Public school, Gordon Street, Whiteinch: addition for Govan School Board.
Glenboig.—Combination school for Cadder and New Monkland School Boards.
Lanark.—Fever hospital: extension for additional ward of twenty beds (£2,000).

PATENT SPECIFICATIONS PUBLISHED NOVEMBER 12, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 24,476. Oct. 28, 1913.—The Educational Supply Association, Ltd., of 42 Holborn Viaduct, London; Herbert Woolard, Bowes Cottage, 60 Walkern Road, Stevenage, Herts; and J. H. F. Lodge, Reno, Potter's Lane, New Barnet. Folding partitions, doors, or walls.

25,104. Nov. 4, 1913.—Richard Haighton, Ltd., and Albert Haighton, Vulcan Iron Works, Nelson, Lancs. Combined wash bowl or sink and set pan, copper, gas boiler, or the like.

23,528. Oct. 17, 1913.—D. M. Nesbit and Ashwell & Nesbit, Barkby Lane, Leicester. Cases or protectors for radiators and other heating apparatus.

23,603. Oct. 18, 1913.—W. J. Watson, 104 Donegall Avenue, Belfast. Device for cleaning or clearing the waste pipe of lavatory basins, baths, sinks, and the like. And 23,604. Oct. 18, 1913. Device for clearing water closet waste pipes.

1,301. Jan. 17, 1914.—J. W. Setten, 117-118 Livery Street, Birmingham. Production of drawing compasses.

1,862. Jan. 23, 1914.—F. G. Meeds, 6 Market Street, and F. W. Gee, 166 Lea Road, Gainsborough. Locking device (applicable for locking the sliding sashes of windows).

26,755. Nov. 21, 1913.—G. C. Waterfield, Rio Grande, Hainault Avenue, Westcliff-on-Sea. Method of storing chemically prepared fire extinguishing powder.

8,126. March 31, 1914.—Alexander Finkler, 13 Maisnitzkaja, Moscow. Process for the manufacture of a metallic paint.

8,678. April 6, 1914.—D. M. Rose, Knoxville, Knox, Tennessee, U.S.A. Woodwork machinery for end matching material for floors, ceilings, and the like.

10,319. April 27, 1914.—G. F. E. and A. H. Vaughan and S. P. Bryan, Standard Works, Willenhall. Double-handed mechanism of locks and latches.

12,953. May 26, 1914.—J. W. Yates, 168 Eighth Avenue, N.Y., U.S.A. Fusible links.

13,182. May 29, 1914.—P. B. Frost, Independent Buildings, 21 Fargate, Sheffield, architect and surveyor, and Fred Rings, Bank Chambers, 92 Tooley Street, S.E. Construction of floors, roofs, decks of bridges, foundations of roads, tracks, footpaths, yards, areas, quays, and the like.

13,525. June 3, 1914.—James Quirk, 3 Belle Vue Buildings, Lansdown Road, Bath. Softening water for household purposes.

14,506. June 17, 1914.—James Beresford & Son, Ltd., and H. J. Beresford, Cato Street, Vauxhall, Birmingham. Water closets.

14,880. June 20, 1914.—J. R. Carman, 602 Eighth Avenue, Seattle, Washington. Heat radiators for use with open fireplaces.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

The British Association.

SIR,—I am instructed to send for publication the following resolution, adopted by the Council of the British Association at the first meeting after the return of the Australian party:—

"That the Council of the British Association for the Advancement of Science, at the first meeting in London since the return of members from Australia, desires to place on record its high appreciation of the generous reception given to the members of the overseas party throughout the Commonwealth by representatives of the Governments of the Commonwealth and the States, and by other authorities and Australian citizens generally, on the occasion of the meeting of the Association in Australia in 1914. The Council hereby expresses its grateful thanks for the hospitality, privileges, and concessions extended so freely to visiting members, and also for the willing and valuable collaboration of all those who undertook so successfully the work of organisation in Australia in connection with the meeting."

The Council trust you can find space for this expression of our gratitude to the Commonwealth. As a statement to the contrary has been circulated, I am to add that, by the desire of our Australian hosts, the programme of the visit was carried through without material change, and, though held at a time of great national anxiety, the meetings were attended by numbers far exceeding those recorded on any previous occasion.—Yours, &c.,

W. BATESON, President.

British Association for the Advancement of Science, Burlington House, London, W.: November 14, 1914.

How to Save Money.

SIR,—I believe Lord Kitchener has said that the war may last two or three years. If it lasts only another nine months, it is, I submit, most desirable that when the days lengthen, say after March, we should not be compelled to waste the early morning light, and prolong the general inconvenience produced by darkened streets in the evening.

Why should not the Government, by administrative order, give effect to the proposition, for which so much public support has already been secured, that it is desirable that we should spend one hour more in daylight in the ordinary working day? The financial aspect of the proposition should certainly influence them, for it is perfectly certain that the effect of the operation of the principle of a Daylight Saving Act would be to reduce the use of artificial light by every householder throughout the length and breadth of the land. The result would be a total saving to the nation of about £2,500,000 next year, and this saving would increase in succeeding years in proportion to the increase of population.

Capitalising a minimum of £2,500,000 a year it may be shown that the financial advantage alone to the country would be equivalent to a gift of about £80,000,000 sterling, and so the financial cost of the war up to the present time could be wiped out if this simple administrative Act became permanently adopted.—Yours faithfully,

WM. WILLETT.

Sloane Square, London, S.W.: November 14, 1914.

Second London Sanitary Company.

SIR,—I have pleasure in informing you that authority has now been given for the formation of a second Home Service Sanitary Company of the 2nd London Division Territorial Force.

Thanks to the splendid response to my appeal for recruits for the 2nd (Reserve) London Sanitary Company, I have not only filled the ranks of that company, but have on my waiting list the names of nearly enough well qualified men to fill up the new company.

There still remain a few vacancies. Applicants, who should be between the ages of seventeen and thirty-five, and should possess good sanitary experience, should communicate at once with Captain Cave, Officer Commanding Depôt, 2nd London Sanitary Company, Duke of York's Headquarters, Chelsea, S.W.

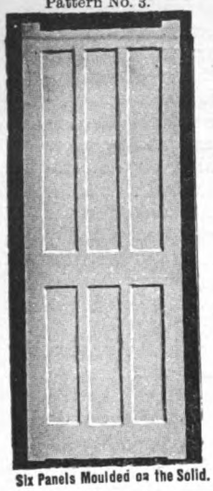
The new company is being formed primarily for home service, but men will be transferred to the Imperial Service unit as opportunities arise.—Yours faithfully,

ARTHUR J. MARTIN, Captain R.A.M.C., T.F.,
O.C. 2nd (Reserve) London Sanitary Co.

THE Malton Rural Council on Saturday decided to ask for sanction to borrow £14,965 for a water supply scheme for the street villages in the neighbourhood. This question has been under consideration for over twenty years.

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THE ARCHITECT

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FORTHCOMING EVENTS.

Saturday, November 28

Institution of Municipal Engineers: Annual General Meeting (at 4 Southampton Row, W.C.), at 12 noon.

Monday, November 30.

Royal Institute of British Architects: Business Meeting, at 8 P.M.

Tuesday, December 1.

Illuminating Engineering Society: Discussion on "Illuminating Engineering in War Time: Some Lessons to be learned from the present lighting of London," to be opened by Mr. Leon Gaster, at 8 P.M.

Leeds Philosophical and Literary Society: Paper entitled "Chateaux of the Loire," by Mr. Louis Ambler, F.R.I.B.A.

Wednesday, December 2.

Royal Archæological Institute: Paper entitled "Misericords in Bruges Cathedral," by Mrs. Annie Abram, D.Sc., at 4.30 P.M.

Carpenters' Company: Distribution of Prizes to the Trades Training School, by the Very Rev. the Dean of St. Paul's, D.D., at 8 P.M.

THE SURREY SIDE.

In the interesting paper read by Mr. Paul Waterhouse before the Royal Institute on "The Future of the Surrey Side" he very truly said that "our modern town planners think nothing of defence, nothing of water transport," and it is clear from the synopsis that he gave, as their chairman, of the views and discussions of the South Side Committee of the London Society that water transport has been very far indeed from the thoughts of that Committee. We hear much of projected arrangements of bridges, of roads, and of railway stations, but except for a half-hearted suggestion of lagoons in the mud-bank to be reclaimed by the ardently desired embankment on the Surrey Side we hear nothing of provision for the primal source of London's greatness, and this suggestion, we fancy, is rather inspired by respect for the probable opposition of the wharfing interest to the proposed embankment than for its practical value.

This opposition we cannot regard as merely to be considered as that of a vested interest. As pointed out by Professor Haverfield in his lecture, which we reported last week, London is London because it possesses an excellent harbour and is extraordinarily central to Britain for distribution from that harbour.

It must be remembered that bridges, roads, and railways are necessary not only for the traffic of individuals, but also, and far more vitally, for the conveyance of merchandise. Now London's harbour, capacious as it is, is not sufficiently capacious for its present-day potentialities, and therefore we see Hamburg and Antwerp advancing with far greater rapidity in importance and wealth, to say nothing of other ports in our own country.

The wharfage of the Thames banks is nothing like sufficient for the seaborne commerce of London. Hence the construction of docks which have gradually crept farther and farther down the river till now Tilbury is reached.

Whilst it is true that the discharge or loading of cargo is more easily performed from a big ship in a dock, where the water-level remains practically almost constant, than from a quay on a tidal river, there is to be set on the other side of the account the loss of time and labour in waiting for tide and in getting in and out of dock. When the quay has deep water sufficient, at least at half-tide, to allow the sea-going ship to berth alongside, then it is probable that the economic advantage is rather with the riverside than the dock.

Now in dealing with the Surrey Side our town-planners should surely take account of the bearing upon their problem of the present and potential aspect of water transport as it affects London as a centre of commerce. And let it be remembered that the essence of commerce is not the business transacted in Throgmorton Street or Mincing Lane, but the reception and distribution of commodities.

Ignoring water transport, what is it that the South Side Committee of the London Society make their objective? They desire evidently above all things to make London more beautiful. They aim at getting rid of ugly Charing Cross station and bridge, of Blackfriars Bridge and Cannon Street, of the mud-bank on the Surrey shore. They desire instead a fine embankment and roadway, with palatial public buildings on the river front, the terminal stations of the South-Western and the South-Eastern Railways on the marsh, with fine roads and bridges leading from and to them.

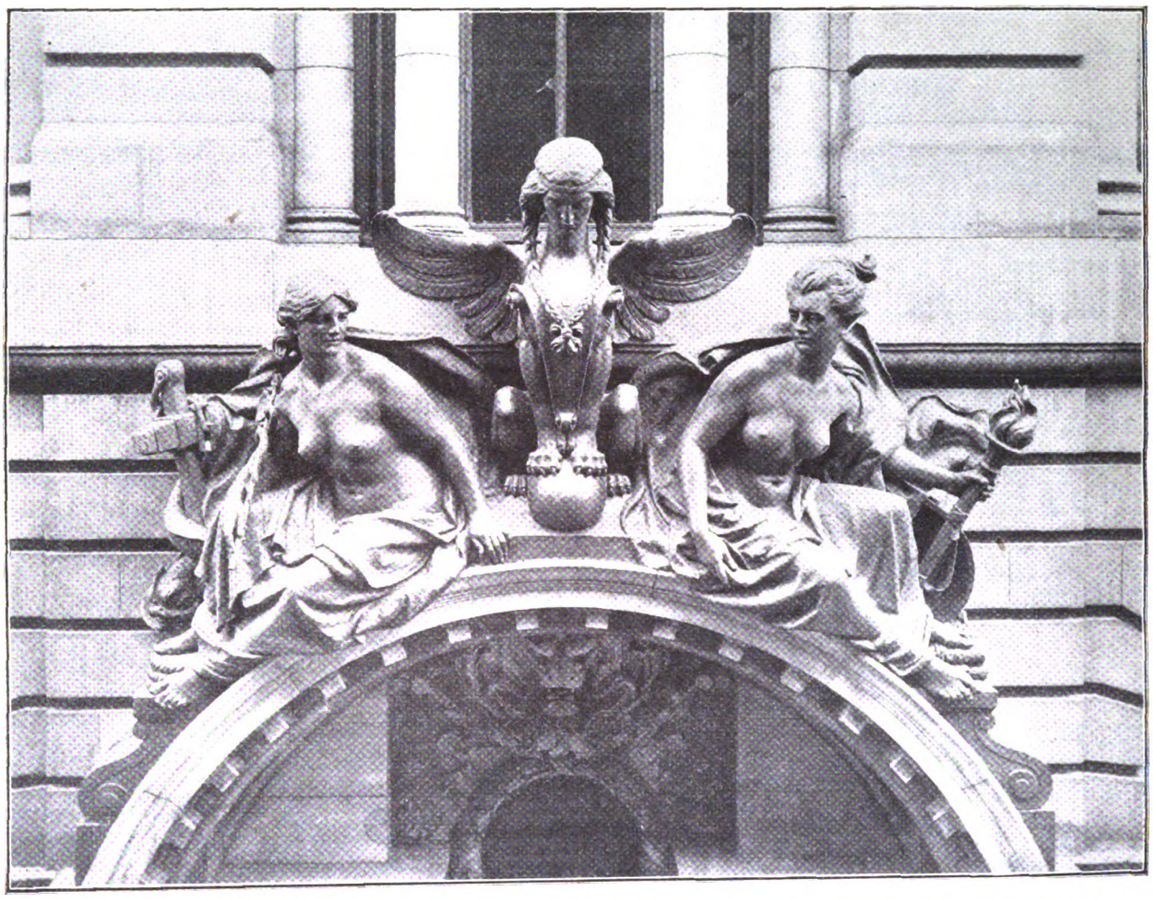
We may grant that these desiderata, given a worthy use of the architectural opportunities provided, would vastly improve the beauty of the south side of the Thames; but other effects may be confidently expected. An unquestionable result of the embankment would be an increase of the "scour" of the ebb tide, but it does not necessarily follow that this would be accompanied by the removal of the mud on the Surrey side. Rivers that flow over soft soils invariably—save where choked by excessive vegetation—tend to increase their scour by deepening their bed. In this process they also tend to become narrower and to leave mud-banks and saltings on their sides, usually more on one side than the other, in the case of tidal rivers especially.

Our present river Thames is the narrowed and deepened channel of the broad and sluggish stream that once stretched from Hampstead to Brixton, and in its recession for long ages flowed between its marshes of Regent's Park and Lambeth. Therefore it by no means follows that an embankment on the Surrey side will prevent a further accumulation of Surrey mud-bank.

Assuming that the embankment is constructed, what public buildings in London are likely to require sites on the made ground over the mud-bank or on the scarcely better foundations now occupied by wharves and decrepit, if not derelict, warehouses? True that we have made a start with the new County Hall, but we shall probably have to wait long before we can fill a couple of miles or so of river frontage with public buildings. Is it in contemplation by the South Side Committee that their Surrey boulevard should follow the example of the Victoria embankment road, with even greater chances of remaining an unobstructed racing path for a few enterprising taxicab drivers?

Then with regard to the railway terminal stations. It is easy to assign locations to these on the Surrey Side, but what is their mission considered from the point of

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SCULPTURED GROUP IN BRONZE, ROYAL INSURANCE COMPANY'S BUILDING, LOMBARD STREET, LONDON.
Mr. F. W. Doyle Jones, Sculptor.

view of London's commerce? They are simply the delivery doors of Southampton and the other Channel ports. The saving of time to individuals makes these delivery doors attractive to passengers, but the increase of cost in the transport of commodities is quite a different matter. Water transport is to these so important in the advantage of cost that time does not matter as a general rule. Even to individuals the difference in cost leads many to travel from London to Paris via Southampton or Newhaven rather than Dover or Folkestone.

It is true that much merchandise does come to London by way of Southampton, but an infinitely smaller amount than by the Thames, so that the Committee's proposals do not make for any increased commercial wealth to London. They are, it may be admitted, pregnant with an increased artistic wealth, a development of the "amenities"—blessed word—of London; but their cost has, so far as we know, yet to be estimated, and still more problematical, we might say unimagined, is the return that may be expected.

The South Side Committee may be confident that the result of their deliberations, as put forward by their chairman in his plan, would make the Surrey Side more beautiful and more methodically organic in view of present-day requirements; but who do they expect will undertake to carry out the plan and who will finance the scheme? Obviously the London County Council must have a voice, and they represent the ratepayers; therefore, the first thing they will want to know is what is the cost and what is the estimate of recoupment? If the South Side Committee can show, to experienced critics, that their scheme will pay its way the L.C.C. might listen to it.

Then the Port of London Authority should also have a word to say. The water transport of London is vital to its expansion, if not to its continued existence, and the Surrey Side has its best chance of a brilliant future when a payable scheme for its increased commercial activity is evolved. There is a great deal of possibility in the proposal of our correspondent, whose letter we print this week, for a straight-cut channel for the Thames from Nine Elms to Greenwich.

NOTES AND COMMENTS.

The serious allegations made as to the ramshackle character of the huts put up at the training camps for the new Army, if true, may be set down to the account of the unprecedented rush in the raising of trained soldiers and the consequent insufficiency of the War Office staff. Scamped work, so-called, is the result of improper specifications or inefficient supervision. It has been stated that the huts are neither rain nor wind-proof, but let air pass through their floors, walls, and roofs. As the floor area works out to only 4 feet by 10 feet per man, passage ways and stove space included, we think it is a good thing if there is a considerable extent of distributed ventilation. It must be remembered that the men who occupy these huts are in training for day and night life in the trenches, and even huts with permeable walls and floors are better than canvas tents with the bare ground for bed.

Improvements usually connote expense and hence it is not surprising to find that protests are made on the part of local authorities, and notably by the Lancashire Education Committee, against what are termed the extravagant demands of the Board of Education—in other words, the recently issued new regulations. The particular points to which chief objection is made are the supersession of the Central Hall principle by the corridor method of planning and the enlargement of girls' cloakrooms by placing the pegs 18 inches apart instead of 12. Of course, the pegs being in two tiers, the actual distance is 9 inches, not an extravagant space for a child's outdoor garment in wet weather. The Corridor type of plan is

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stated to cost an extra £1 per head over the Central Hall type. The disadvantages of the Central Hall are so palpable that it is a wonder they have been endured for so long. Some of those of the Corridor type are also already tolerably evident, but the argument of costliness, if carried to its logical conclusion, will land us back in the primitive simplicity of the hedge school. We cannot avoid the suggestion and we ought not to desire to prevent the introduction of improvements in school planning, and so long as those improvements give value for money they should be welcomed by all authorities who are carrying out the national work of education.

Mr. P. Macgregor Chalmers, in the course of a lecture before the Scottish Ecclesiological Society, has given some very interesting information on his recent researches at the Abbey Church of Iona, which he is now restoring for the trustees. During the seven years he has been engaged upon this work advantage was taken of the exceptionally favourable circumstances to examine the whole fabric with the greatest care and to excavate where that was practicable, so that as far as possible the buildings should be made to yield up their own story. There was the more need for most careful research in view of the theory, promulgated by Skene the historian, that the present Abbey Church does not occupy the site of the early monastery founded by St. Columba. It is believed that the result of the many years of research leaves little or no room to doubt that the present site is indeed hallowed to us by its early association with that great Christian missionary. The ancient main street of Iona which lay north and south passed right over the site of the present central tower, extending onwards to the north, where a part of it has been found two feet beneath the turf. The ancient Cross of Iona stood in early days where the Tower now stands, with, probably, St. Columba's Church to the east of it. The foundations of a building were found partly under the Tower and partly under the nave. The building was of large size, lying north and south, and constructed not with gables but with rounded ends. This building may have been the refectory of the monastery at a very early time, and it may be possible to identify the site of the cell occupied by St. Columba amongst the ruins of a building still called "The Abbot's House." A considerable part of an early church remains above ground at the east end of the nave, forming part of the present church. This church had two side rooms, of which parts remain. Five stone coffins were found in front of the altar of this early church. The building was enlarged both at the west and east by Reginald Lord of the Isles. His work seems to have involved the destruction of the earliest church, and it interfered with the main street. In some way the Celtic Church was alienated, and men came across from the north of Ireland and destroyed the building. But the work was restored and greatly enlarged, the east end being designed as an upper and lower church or crypt. Towards the end of the fourteenth century a magnificent stone-vaulted eastern transept was added on the south side of the choir, equal in length to the choir. The lower part of the walls of this great building remained unsuspected beneath the turf until a few years ago, when they were found when a drain was being constructed. It was not until late in the fifteenth century that the Abbey Church took its present form.

It is gratifying to learn on the authority of Dr. A. P. Laurie that permanence is on the whole a feature of modern picture painting. In a recent lecture at Burlington House his general conclusions were that since 1830 or thereabouts British painters, acting more or less on the advice of artist's colourmen, by that time in touch with properly equipped chemists, had from the standpoint of durability turned out satisfactory work. Contrarily, Dr. Laurie declared that there is something wrong with 18th century British pictures in general, most of which have darkened greatly, and show many considerable cracks. These results he is disposed to attribute not so much to poor pigments as coloured varnishes, used perhaps to give a premature look of age. In this connection the lecturer emphasised the peril of cleaning pictures, even under expert superintendence. The most durable of all methods of painting he naturally holds to be laying on the pigment thin and flat. Yet some apparently reckless exploits in a different direction, such as Millais's "Souvenir of Velasquez," have hardened up, and now seem in a permanent state. Bitumen, the "arch-enemy" of permanence, was condemned, and Etty was of those censured for the bad tradition he followed. Of dead artists, work by whom time has not perceptively impaired, Dr. Laurie named Sir Henry Raeburn, William Collins, William Dyce, Sidney Cooper, and Sir W. Q. Orchardson, to the perfect condition of whose "North Foreland" (1877) he directed special attention. Chemists, with full warrant, warn artists against the use of chrome yellow, liable to be darkened by sulphurous gases, and of old Naples yellow as years ago it was obtainable. Yet in the face of these condemnations we find in the Diploma Gallery a landscape sketch by Constable with touches of chrome yellow as bright as when the picture left the studio, while in Frith's "Sleeping Model" there is a passage of old Naples yellow in similarly perfect state. It appears that David Roberts, whose "Baalbec" (1841) is painted on a panel covered with a thick coat of white lead, used pure ultramarine in the sky visible through the arch. Here, as in some other works by Roberts, the unchangeable nature of lapis lazuli has served to bring the sky into undue prominence.

The House and Standing Committees of the Birmingham Board of Guardians have recently investigated and reported on the future lighting arrangements at Dudley Road Infirmary and Western Road House. The cost of making gas at the present works came to £1,790 per annum, exclusive of the cost of mantles, burners, &c., as compared with £1,477 for lighting by Corporation gas. The cost of electric current from the Corporation was estimated at £926 per annum for the two institutions, to which should be added the amount of the annual repayment of the loan raised to cover the cost of the installation. The adoption of electric light was approved by the committees, and provisional tenders were invited for the necessary installation. The total cost of the scheme was estimated at £7,600, and the annual repayment in respect of a loan would amount approximately to £680. It would, therefore, be seen that lighting by electricity supplied by the Corporation would cost £129 more per annum for the next fifteen years, during which period the loan would be repaid, and subsequently the cost of the lighting and renewals should be £551 per annum cheaper than that of gas from the city mains.

A reason for the non-durability of modern house painting may be readily understood from the evidence given in a case in which "white lead paint" was sold instead of genuine white lead paint. It was explained that for many years white lead was frequently adulterated with barytes, and the manufacturers of white lead decided to take steps under the Merchandise Marks Act to suppress its sale under the description of "white lead," in the interests of the public of the painting trade, and also of the manufacturers themselves. The addition of lead sulphate, or zinc oxide, had been held to be adulteration of white lead. The price of barytes, or barium sulphate, was roughly 10 per cent. that of white lead. White lead paint should have as a base white lead, and, in addition, should only contain linseed oil, turpentine, and dryers. The London Chamber of Commerce had a tin of the so-called white lead paint analysed, the certificate of the contents being:—Barium sulphate (barytes), 47 per cent.; lead sulphate, 1.50; white lead, .50; zinc oxide, 8.50; calcium carbonate, .80; oil, 41.70. The tin bore the label,

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"White Lead Paint," and this was the description given of it on the original invoice.

A correspondent of the *Irish Times* calls attention to an interesting point in connection with the ancestry of the late Lord Roberts. In the *Journal for the Preservation of Memorials of the Dead in Ireland* (vol. iii., p. 345, 1896), an inscription from the old French church in Waterford is printed, which commemorates his great-great-grandfather. It runs:—

"To the memory of John Roberts, Architect, who died the 23rd of May, 1796, aged 84 years. He was the person who designed and built the Cathedral Church, the Catholic Chapel, the Leper Hospital, the Public Rooms, etc., in this city.

"And also to the memory of Mary Susanna Roberts, otherwise Sautel (misprinted Santel), his wife, who died the 21st day of January, 1800, aged 84 years; and of several of their children, grand and great grandchildren."

It may be noticed that both husband and wife attained the great age of 84. Their grandson, General Sir Abraham Roberts, father of the late lord, attained to 89. The lady mentioned in the inscription was daughter of Francis Sautelle, of Waterford, whose family fled from France, who is said to have fought at the Boyne, and whose will, made in 1744, was proved in that year by John Roberts, executor, whose own will, made in 1796, was proved in that year.

WAR ITEMS.

In connection with the campaign undertaken by the Board of Trade, on the advice of their Advisory Committee on Commercial Intelligence, to assist British manufacturers and merchants to secure trade formerly in the hands of German or Austro-Hungarian firms, the Board have received a very large number of enquiries for names of sellers or buyers of articles of which the sources of supply or markets have been interfered with by the war.

Special arrangements have been made in the Commercial Intelligence Branch of the Board of Trade for dealing with the enquiries, and lists are being prepared and circulated of articles which enquirers desire (*a*) to purchase and (*b*) to sell. The third list, in which is incorporated the first and second lists, was published on October 14. The fifth list is now ready, and may be obtained by United Kingdom manufacturers and traders, together with copies of the previous lists, on application to the Branch.

British firms interested in any of the goods mentioned, either as buyers or sellers, should communicate with the Director of the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

The following statement, from a pamphlet on copper goods recently issued by the Commercial Intelligence Department of the Board of Trade, shows for a recent year the value of copper goods exported from Germany, Austria-Hungary, and the United Kingdom respectively to all destinations:—

	£
Exported from Germany (1912)	2,663,600
Exported from Austria-Hungary (1913) ...	476,700
Exported from United Kingdom (1913) ...	3,006,800

A considerable trade in these goods is carried on between the three countries. Thus, German exports of copper goods to Austria-Hungary in 1912 were valued at £130,600, and to the United Kingdom £317,800. Similarly, Austrian exports in 1913 to Germany were valued at £80,570, and to the United Kingdom £8,840. The exports of the United Kingdom in the same year to Germany and Austria-Hungary were valued at £18,300 and £1,900 respectively.

Excluding the trade referred to in the preceding paragraph, it appears that the value of the exports to the principal Colonial and neutral markets only, considered as a whole, reached the following amounts:—

	£
Exported from Germany (1912)	2,141,550
Exported from Austria-Hungary (1913) ...	377,150
Exported from United Kingdom (1913) ...	2,685,800

Owing to differences in the methods of classification employed by the three countries a close comparison between their exports to particular markets is rendered difficult, but it is evident that the United Kingdom does the bulk of the trade in our principal colonial markets, the large exports to British India and Australia being particularly noticeable. In all the European countries, however, Germany's share of the trade is greatest, the United Kingdom exports to these markets being comparatively small. Germany also has hitherto held the leading position in this trade in Chile, United States, Mexico, Colombia and Uruguay, whilst her competition is severely felt in Brazil, Argentina, Dutch East Indies, and to a lesser degree in China, Japan, and Egypt.

To sum up, it appears that the value of the trade in copper goods in the United Kingdom and the principal Colonial and neutral markets, which, under present circumstances, might be diverted to British manufacturers at the expense of their German and Austro-Hungarian rivals, is as follows:—

	£
(*a*) In the United Kingdom market:—	
German trade (1912)	317,800
Austro-Hungarian trade (1913) ...	8,840
Total	£326,640
(*b*) In Colonial and neutral markets:—	£
German trade (1912)	2,141,550
Austro-Hungarian trade (1913) ...	377,150
Total	£2,518,700

making a grand total of £2,845,340.

The details of German and Austro-Hungarian exports of these goods to the United Kingdom and the principal colonial and neutral markets are given in the pamphlet in order to indicate to persons or firms interested the class of goods taken by each of the principal markets.

AN ARCHITECT'S VIEW OF TECHNICAL TRAINING.

An interesting gathering took place on Friday last at the Club House on the Hampstead Garden Suburb, when Mr. Henry Vivian, J.P., presided over the annual prize distribution in connection with the technical education work of the Co-Partnership Garden Suburb Movement. There was a large attendance of workmen engaged on the estates, and an interesting address was given by Mr. Raymond Unwin, F.R.I.B.A., who distributed the prizes. These included the presentation of the Thornton Scholarships, which, under normal circumstances, would have entitled the three winners to a fortnight's tour on the Continent. Owing to the war, however, this was, of course, impossible, and the winners have been given the money instead. Mr. Unwin pointed out that the holding of classes on the actual building sites (as was done at the Ealing and Hampstead Garden Suburbs) was a unique development of technical training, bringing the brain and the hand into intelligent co-operation. He made an interesting comparison between this method and the insistence in the German system of education on brain work. Their fundamental mistake was that they had put too much stress on thinking, and not enough on feeling. British failure, perhaps, had been that we had not thought enough. We ought to have thought more, and the Germans ought to have felt more. Never until the Co-Partnership Movement started had real brain power been concentrated on the science of building houses. It secured the co-ordination of the various activities to build the best houses with the least loss or waste of labour and material, so as to make it possible for the greatest

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number of people to live in the best possible houses that their conditions of life would allow.

In proposing a vote of thanks to Mr. Unwin, Mr. G. L. Sutcliffe, F.R.I.B.A. (architect to the Co-Partnership Tenants), referred to the excellent work that had been done by the men, both in the technical classes on the suburbs and in connection with various technical institutes.



ST. MARGARET'S, LOUVAIN.—ONE DIVISION OF OAK PANELLING ABOVE STALLS.
From a Sketch by Mr. ALFRED H. HART, F.R.I.B.A.

COMPETITION NEWS.

DUNDEE.—Messrs. Maclaren, Sons & Soutar, architects, Dundee, have been placed first in the competition for a school proposed to be erected in Bellfield Street. The cost of their design is estimated at £19,792 by the School Board's surveyor and £18,229 by the authors. Mr. Alexander N. Paterson, F.R.I.B.A., of Glasgow, acted as assessor and made the following awards: (1) Messrs. Maclaren, Sons & Soutar, £19,792; (2) Messrs. Maclaren, Sons & Soutar, £22,703; (3) Mr. Vernon Constable, Barnhill (architect in the City Engineer's office), £22,136; and (4) Messrs. Thoms & Wilkie, £22,443. The School Board have accepted the design placed first and awarded the premium of fifty guineas to Mr. Vernon Constable, and that of thirty guineas to Messrs. Thoms & Wilkie.

MACCLESFIELD.—The Macclesfield Lands, Railway, and Town Development Committee have adopted a report of the proceedings held at the Town Hall on the 16th ultimo. on the housing question, and have decided to invite competitive designs, sections, and estimates for the erection of houses to be let at 6*s*. per week rent.

SOUTHPORT.—Mr. Paul Waterhouse, M.A., the assessor in the competition for the proposed technical school, has given his award as follows: First, Mr. James Miller, A.R.S.A., F.R.I.B.A., Glasgow and London; second, Messrs. S. N. Cooke and Twist, Birmingham; third, Messrs. Marshall, Robinson, Son & Wheeler, and Messrs. Henderson & Brown, Bolton.

SOUTHEND-ON-SEA.—Members and Licentiates of the Royal Institute of British Architects must not take part in the Tuberculosis Hospital Competition because the conditions are not in accordance with the published regulations of the Royal Institute for architectural competitions.

ILLUSTRATIONS.

PRUDENTIAL ASSURANCE OFFICES, DUNFERMLINE.

THE Dunfermline offices of the Prudential Assurance Company occupy a fine position near the centre of the town. The stone adopted in this case is Cullalee stone from the quarry of Messrs. J. H. White & Sons, the columns only being of Aberdeen granite. The Prudential Company will occupy practically the whole of the ground floor, the upper portion of the building being designed in suites of offices to let.

The contract, following the Scotch custom, is let to several firms, the mason contractor being Mr. John Baxter, of Dunfermline, and the joinery contractors Messrs. Brown & Templeman, also of Dunfermline. Mr. James Shearer, architect, of Dunfermline, is acting for Mr. Paul Waterhouse, M.A., F.R.I.B.A.—who prepared the design—as local superintending architect.

SKETCHES IN BELGIUM.

WE continue this week our series of illustrations from Mr. Alfred H. Hart's sketches in Belgium.

DECSIGN FOR OUNTRY COTTAGE.

THIS sketch was submitted by Mr. G. Berkeley Wills, A.R.I.B.A., in a recent competition for a cottage to cost £850 for a given site, and which included the laying out of the garden of about two acres.

The materials proposed were 11-inch walls covered with cement rough cast, and roof of thick thatch. The plan is a rather usual one of symmetrical type.

ST. MARY'S CHURCH, PLAISTOW, BROMLEY, KENT.

THE work of extension contemplated at the above church at the present time consists of the addition of a south aisle giving an additional accommodation of eighty sittings, divided from the existing nave by an arcade of three bays, also the lower two stages of a tower, as shown in the drawing, which will serve also as a dignified main entrance to the church.

The walling will be faced externally with random-coursed flint work, having Doulting stone architectural features and dressings.

It is further intended to complete the church by the addition of a morning chapel on the east of the present south transept, and later on with a north aisle and arcade.

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ARCHITECTURE ON THE FLEMISH-DUTCH FRONTIER.

By J. Tavenor Perry.

Two roads which run northward from Bruges to the Dutch frontier, some eight or nine miles distant, have lately been filled with crowds of refugees from German brutality seeking safety and shelter in Holland; while war correspondents, flitting backwards and forwards across the border, have made the names of little towns and villages, erstwhile famous but long since forgotten, once again familiar. Of these two roads the more direct one leads to Sluys, and down this also runs a light railway, whilst the same place can be reached by boat along the broad and deserted Damme canal; and the other road, slightly longer and much less frequented, leads through the Flemish Middelburg to the once important Dutch town of Aardaenburg.

The former of these two roads, passing down the Quai Long, leaves Bruges by the Basin, and goes on through the Flemish villages of Dudzeel and Westkapelle, in the former of which are considerable remains of a romanesque church, dedicated to St. Peter, of which the massive tower still stands grouping curiously with the tower and spire of a modern and uninteresting church built near by. At Westkapelle are still remaining the eastern portions of the old brick transeptal church of St. Nicholas, and of this we give a sketch plan and view (fig. 1). These remains consist of an apsidal choir three bays long with aisles, transepts, and a

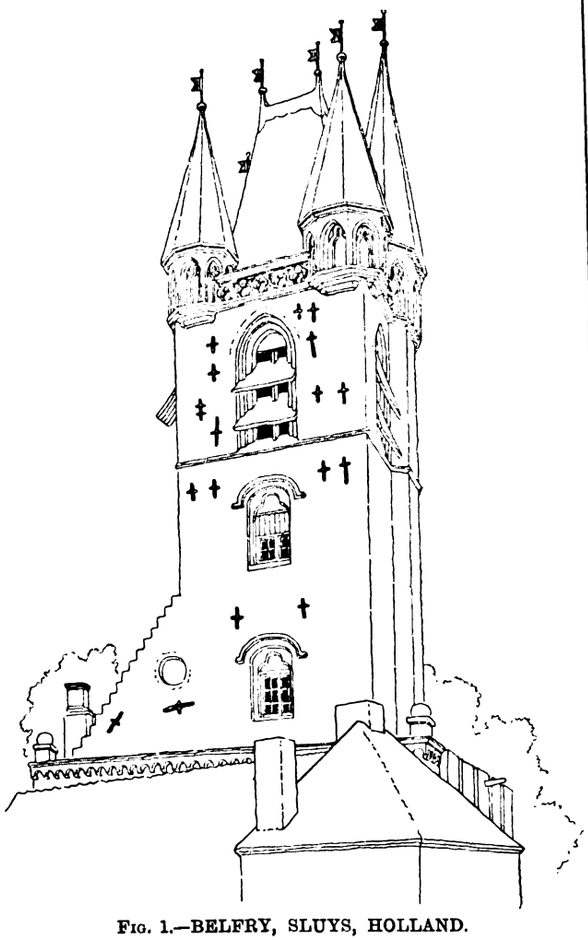


Fig. 1.—BELFRY, SLUYS, HOLLAND.

square central tower which becomes an octagon above the roof level, and was covered by a leaded spire burnt off in 1664. The tower may date from the fourteenth century, but the rest of the work is generally a century older; and the interior has been completely modernised and whitewashed.

The first place to be entered on the Dutch side of the frontier is the diminutive village of St. Anna-ter-Muiden, which consists of about twenty doll's-houses built round a triangular village green, with a stone-mounted pump and a common well; and one of the houses, a little larger than the others, has a flèche with a bell on its roof and forms the village school-house. The old church of St. Anna has been destroyed, and a large barn-like building serves for the Protestant ritual of the Dutch services; but the lower part of the old tower, practically indestructible and clothed in ivy, makes an interesting relief to a very dull picture. The tower when perfect was, no doubt, of the same character as the well-known ones, both visible from here over the flat country side, of Damme and Lysseweghe, and that of Notre Dame at Bruges before the modern spire was built; but in its present truncated state it may be compared to a great Norman keep.

A recent war correspondent in the *Times* thus admirably describes the appearance of this part of the road. "A cluster of a dozen or so of cottages with charming mellow red-tiled roofs make a sort of cathedral close or 'precinct' around the massive square tower of the once magnificent church of St. Anna. Nothing remains of the sacred building but the tower, on the top of which flies a Dutch flag, and the figure of a Dutch sentry stands against the sky. Twenty yards away two posts stand by the side of the high road marking the actual frontier, and there, at the opposite side of the road from the massive church tower—is a straggling whitewashed inn, which is half on Dutch soil and half on Belgian."

Less than four miles beyond the frontier is the once important, though comparatively modern, town of Sluys standing at the head of the now stopped-up Damme canal which once entered the broad estuary of the Scheldt, then known as the Zwyn, at this place. It was on the waters of the Zwyn that the first great naval fight between England and France took place, when Edward III. destroyed the French fleet; and it was to Sluys that Edward IV. in 1468 brought his sister Margaret of York for her marriage to Charles the Bold. But the Zwyn gradually silted up, and the entrance to the canal became choked with sand, and the area over which the fleets fought is now a cultivated plain and forms the southern part of the province of Zeeland.

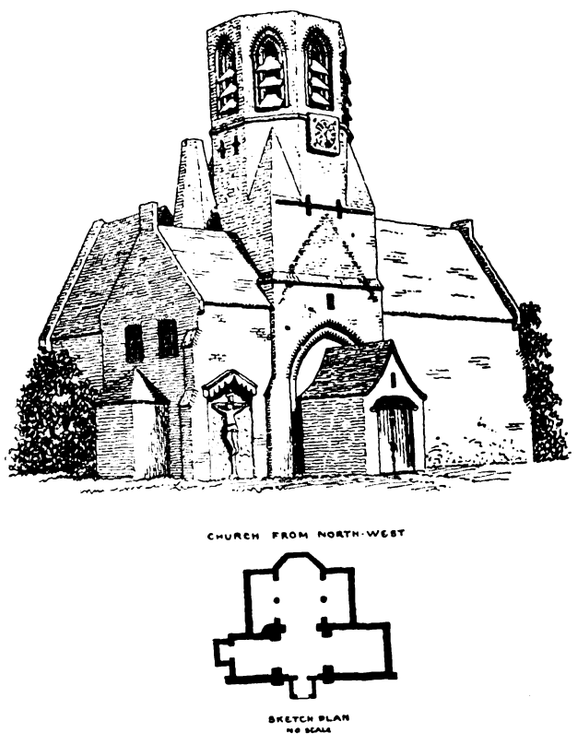


Fig. 2.—WESTKAPELLE, FLANDERS.

The general aspect of Sluys can be best seen from the head of the canal, when it will be noticed that, with the exception of the Stadhuis, all is comparatively modern, though not without a measure of picturesqueness. The Town House, standing on one side of an open place, is a large building under one main roof, but with the interior cut up into a number of small rooms and of little interest. It is entered through the lofty belfry, which stands on the east face of it, from the top of a fine perron through a stone doorway, which retains traces of rich carving; and the brick tower of the belfry is crowned with bartizan turrets at three of the angles, while at the fourth is a large newel staircase. A picturesque arrangement of a figure which strikes the hours on a bell appears on the south face of the upper stage (fig. 2).

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Three miles to the south-east of Sluys, and just within the Dutch frontier, lies the once-important town of Aardaenburg, but this is better reached by the other road we mentioned, direct from Bruges, leaving it by the Porte St. Croix and, traversing the suburb of St. Croix, leads first to Middelburg. Little now remains of this town to indicate its former greatness except the large brick church, consisting of a nave, choir and transepts, and a central tower ending in an octagon, as at Westkapelle. The history of the place is not a little remarkable. It was founded by Sir Peter Bladelin, Treasurer of the Order of the Golden Fleece, whose beautiful house in the Rue des Aiguiles, Bruges, is known to most architects. He fortified the town and built himself a castle there, and when the fall of Dinant occurred he induced a colony of Dinantois to settle in it; but such was their turbulent character that, for their own peace, the Brugeois attacked and dismantled the place in 1488, and this, together with a further retirement of the sea, reduced it to its present miserable condition.

Two miles further on, and across the frontier, is the town of Aardaenburg. Even now, in its decay and comparative isolation, it is a place of considerable size, the

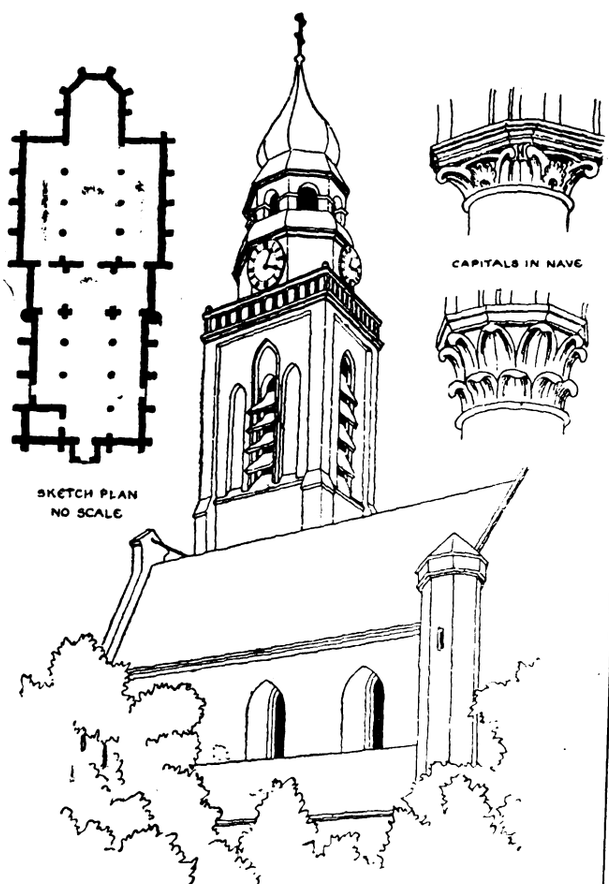


FIG. 3.—AARDAENBURG, HOLLAND.—NORTH-WEST TOWER OF CHURCH.

main street, some half-mile long, being lined with good substantial houses, chiefly of the seventeenth century, many of which exhibit in tye-heads, grilles, &c., some very ornamental ironwork of that period; and the street ends in a picturesque gateway—a relic of the fortifications which once surrounded the town. The Gantoise, in 1452, burnt the place and destroyed the great church of Notre Dame, to which our Edward III. repaired to render thanks for his victory of Sluys; but another, and perhaps equally large church remains. This consists of a nave with north and south aisles, north and south transepts, and the stump of a central tower, a large chancel, also with aisles, and a considerable eastward extension of the chancel ending in a straight-sided apse. There is a lofty brick tower at the west end of the north nave aisle; but the fine central tower was pulled down by the townspeople in the middle of the last century to save the cost of its repair.

The chancel and all the work east of the transepts were rebuilt in the sixteenth century—the original work having been destroyed in the Gantois raid—in a spacious manner, the three aisles being of an equal height and very lofty, executed throughout in brickwork. The piers are moulded and without capitals, the mouldings being continuous with the arches, and the vaulting is of a very elaborate description; while the tall three-light windows of the choir are filled in with very varied brick tracery. It must have been when in its prime, with all its altars, screens, and furniture, a rich example of its style; but all such accessories have long since disappeared, and now it is little more than a vast whitewashed wall. It was "restored" by a Belgian architect in the 'fifties, who has screened it off from the nave and fitted it up for Calvinistic worship.

The nave, which is only four bays long and dates from the end of the twelfth century, has well-moulded arcades resting on cylindrical piers of blue stone with well-carved capitals of good design, as can be seen from the sketches we give of two of them. The aisles have cross arches from the piers to the outer walls in the manner of flying buttresses, but they and the nave are and have always been only covered by wooden ceilings, once, perhaps, boarded on the underside. There is a triforium arcade opening into the aisles formed of lancets in pairs with nook-shafts at the angles of the piers; and the clerestory and aisle windows are simple lancets. The three small doorways are moulded with semi-circular heads, the head of the western door being also trefoiled with an uncarved tympanum, the north and south doors being now bricked up and the western enclosed within a late brick porch. The tall brick tower at the west end, of which we give a sketch, is slightly oblong on plan; and the church is closely surrounded by trees, and forms a good subject for a water-colour drawing (fig. 3).

Such are the places along the Dutch frontier the names of which have so recently become familiar; and others north of Bruges, such as Damme and Lapscheure, and even Bruges itself, are now threatened with destruction if the Germans attempt to make the new Sea Canal and Zeebrugge a naval base. May the danger be averted!

ARCHITECTURAL ASSOCIATION OF IRELAND.*

Most generously you have elected me to a second term of office. To those of you who have not yet occupied the chair, the prospect of being president of a society such as ours might naturally inspire imaginings of content; yet I venture to think that to those who have already passed the chair my temerity in standing here for a second time before you will make an entirely different appeal.

The saying that fools rush in where angels fear to tread, hackneyed though it be, had never such a clear meaning in my mind as when the inaugural address clamoured for attention. Without wishing to identify myself for the moment too closely with either one or the other of the subjects of the proverb, it must be confessed that, having surmounted the bunker of the pre-sessional address and played over the course some nine years ago, I might with wisdom have remained in the club-house with the other veterans and not attempted the hazards of a second round.

One desires for himself and his audience, not unreasonably, to be original in an inaugural address. Such an achievement becomes increasingly difficult now that a long line of able men have already expressed so freely and so clearly their thoughts on architecture and on architects, and have laid bare to us their aspirations and their apprehensions. One claim alone may I make to originality: it is a careful avoidance of any retrospective glance at preceding addresses, including my own, fearful, perhaps, that a renewal of acquaintance with past successes would make me falter in what, after all, is a most pleasurable task.

Some of you may remember a placard which a few years ago was used—with an effect not recorded—by certain militant advocates of temperance. It was entitled "The Youth—What will he Become?" I think, from recollection, that the youth was first displayed to the passer-by as a child of a somewhat disengaging type of countenance, whence in two horizontal lines we were able pictorially to trace his gradual progress, through various stages of his life, achieving on the one hand an expression of extraordinary viciousness, on the other—doubtless by restricting his powers of absorption to soda water—attaining the proud possession of an archaic top hat. It occurred to me, with this placard visualised, and, of course, eliminating any temperance atmosphere, that just for a few moments this evening we might consider a topic more interesting to

* Presidential Address by Mr. Harry Allberry.

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or, still more important—*what will become of him*? We ourselves—"The Young Architect—What will he Become?" may exclude from our thoughts him whose name is destined to be wreathed with honours and degrees, or him whose career may be popularised by certain eccentricities of genius. Men of supreme talent in the art of architecture, or the science of advertisement, are, perhaps, comparatively few in number. We will rather deal with one, let us call him, in no way offensively, "a mediocrity," to whom art will never appear with a very large A, but for whom drain testing will possess a very big D—one may hope £ s. d. In the absence of independent income, and without friends of rank or influence, such a youth faces the world unarmoured, and truly seeks a position of risk—and be it frankly said of much honour—when he joins the battalions of architects, made and in the making, in these islands.

Our friend may have shown some juvenile skill with the pencil, have earned some word of praise from a weary art master in the local technical school, or—like one of the recent Presidents of the R.I.B.A.—have had a taste for building rabbit hutches, and drawing tracery windows with a pair of compasses. He may have read that architects are not as other men, and been tempted by a flattering family to take up a profession which is a tripartite of Art, Science and Business, at once a delight and a delusion, an alluring mistress demanding lifelong attention for an infrequent and generally frosty smile. Assuming any or all of these conditions, we may proceed to the day when our friend, or rather our friend's parents, have parted with a substantial cheque, and he, with shining instruments, well sharpened pencil, and virgin india-rubber, becomes a cadet in our ranks. There for a space of three or four years will we leave him, passing his days of labour and of play, for student days are vastly alike—they vanish quickly and we heed not their going. Fortunate is he who, during these few years, has some prevision of the difficulties of the future, and a principal who fulfils his solemn engagement to train a lad to fight his way upward, for then he will in some measure realise that while architecture has its fascinations, it has its drudgery. He will understand what the next decade must mean to him, and will be able to select the rightful road of the two that face most pupils when they stand alone and perplexed, their apprenticeship served, their future unassured. One of the roads appears easy, the other is a very broken road, in which he may not linger at the wayside in sport or ease, but in which he must press constantly on, with eyes and ears ever open, with hand and mind constantly engaged, not indeed to gain wealth and notoriety, but merely to live later in some moderate degree of comfort. In this road there are too frequent intervals, alluring avenues, leading to the other and easier path, which is a way of undoubted fascination, for along it there is great opportunity for leisure and comparative peace of mind. But, unfortunately, this road is short, and the wayfarer who has selected it finds himself in that hopeless *cul-de-sac* of our profession, the architectural draughtsman—whose rival is a mechanical printing machine—whose salary would not be offered to a competent artisan. We will not deal with this aspect of our profession just now, although it is one which might commend itself to the urgent attention of those who form the cabinet of architectural politics. We prefer to imagine that our mediocre friend, faced with the first serious crisis of his life, essays the ruder path, traversing alternately the mountain peaks of elation, and the long, gloomy valleys of hopelessness, to the culmination of successful architectural practice. During the years between twenty and thirty our friend must necessarily keep hard at it. In the office and out of it, in city and in village, in the work that is daily passing through his hands, and from such sought-out sources as books and classes, alone or in the companionship of other students, he must unceasingly prepare himself for that end to which he aspires, making friendships by his honest dealing, reliability and sociability, friends who, when they in turn attain positions in other ranks of life, will stand him in such stead.

The evil of a presidential address to a student association is that it may savour something of the pulpit, where one speaks and others may not hit back. But perhaps you will bear with me if I dwell over long on a period through which many of our members are passing, or are about to pass, and from which others to their gladness or sorrow have but yesterday escaped. And this I say in all earnestness to Irish students and assistants particularly, that any slackening of energy between the ages of twenty and thirty can seldom be recovered. Let us think for one moment of what is happening elsewhere, of the great architectural schools in the kingdom, turning out year by year their scores of young architects (some will, I know, call them pseudo-architects), who pass from country to country, learning more of their craft, sparing themselves nothing in their effort to qualify themselves for the future. These men are and will remain the competitors of the present generation of Irish students, and our friend will find them jostling him at every turn—men with a well-designed system of training readily available and accepted by them with eagerness and to the full.

Of course, there are determining factors in success, other than mere application; for instance, one's ambitions, limitations, and opportunities. Without ambition the otherwise most perfect architect will fail, and with it the man of lesser ability succeed in some measure. For ambition rightly directed means tenacity of purpose, a divine discontent which within wide limits makes for progress. Ambition for success, for slow and certain success, ensures that each minor duty is well executed, bringing with it the after-glow of good performance and aiding that most difficult of tasks, "to keep the heights which the soul is competent to gain."

Limitations may be likened to the barnacles which impede ambition, but, unlike the barnacle, they cannot be readily removed. Fortunately one's limitations are not so much in evidence early in life, and we are often able to overcome difficulties in our youthful ignorance which would appal us or leave us gasping in later years. It is not until middle age that we fully and fearfully realise the line beyond which we may not pass, unless, perhaps, by most strenuous and exhausting endeavour. But students with high hopes have no limitations—their eyes and minds embrace the uttermost confines of architecture. Therefore should they enjoy the false horizon of youth's inverted field-glass before they take to the smoked spectacles of later years. Last, and so important—opportunities. Without ambition we will not seize them when they arise, without ability we cannot master them; yet, lacking opportunity, ambition is deadened and ability expends itself in vain. Therefore opportunities must be watched for in this country; they are but few, and those who seek them are many.

The last census figures show that we have 405 members of the architectural profession and 1,229 civil engineers in Ireland, striving to make a living. Many of the latter are, of course, doing architects' work when occasion arises. If you have read Swifte's "Imitation of Horace," you will remember the ideal therein of a comfortable existence:—

> "I often wished that I had clear
> For life, six hundred pounds a year,
> A handsome house to lodge a friend,
> A river at my garden's end,
> A terrace walk and half a rood
> Of land, set out to plant a wood."

Now, I am going to take a much lower standard than that. You will admit that £150 a year is not a very tempting income as a guerdon for many years' school and professional training, yet to achieve this for these colleagues of ours would mean, at 5 per cent. commission, an expenditure of just five millions annually on structural operations—operations, be it remembered, in which professional assistance is employed.

And here, with these horrible statistics, we may take up the final phase of our mediocre friend's career, when, after ten or twelve years as an assistant, he will leave the comparative snugness of the harbour walled with a weekly salary and face the sea of professional practice. Such a changing sea as it is—calm and shining to-day; surging to-morrow with combative contractors; outraged and outrageous clients; with querulous clerks of works; with assertive agents; with callers who want everything, and more who want nothing; and, worst of all, a sea traversed by shoals of idleness, when work is scarce, when there is little draughtsmanship and no drafts—shoals of such an extent that one wonders whether he will ever skirt them and reach a region of constant practice, or longs for the supposedly restful haven of a Government or municipal post. What does our friend find when he embarks on this sea? He is at once in the midst of grievous competition with his fellows; for, as I have said, the opportunities in Ireland are few. The era of church building and its concomitants for the moment is practically over. There are left dispensary residences, schools, labourers' cottages and a small sprinkling of domestic and mercantile buildings. Everyone is apparently short of money, or saying they are—

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nearly all requiring ninepence for fourpence, and aggrieved if they only get sixpence.

Amongst his competitors he will find unskilled men far too numerous for our health, who owning a bowing acquaintance with a two-foot rule, and with an awkward and sometimes tremulous grip of a pencil, dot the countryside with meaningless abortions. Thankful we may be to Providence that their efforts possess few elements of permanence in construction or material. He will find such men tolerated by the public, and a profession proud of its past, and fearful of its future, clamouring for their ultimate extinction. Meanwhile our representative societies flounder around in a vicious circle, comprehending all and seemingly doing little. He will learn, tyro as he is, that he must charge a minimum fee for his work, a fee which is also generally the maximum of those who from age, experience and ability may be numbered amongst the front ranks of his competitors.

These last and most trying conditions are unknown in other professions, as I have already on one occasion pointed out. Were the aspiring medico and the Merion Square specialist to charge the same fees, the greenhorn in the Law Library and the sapient King's Counsel to require the same refreshers for their briefs, it is certain that the junior ranks of the legal and medical professions would more acutely suffer the silent staircase, the seldom opened door, the empty letter-box, and the appalling vacuity of a clientless office, conditions not infrequently unknown, as we are painfully aware, to some young architects. It is, in my opinion, high time that those who are able should, by the exercise of some unselfishness, rise superior to the minimum fee and, if I may say so, "give the young 'uns a chance." Otherwise it is no use for us to ape the architectural Stiggins, and expect the man who has to gain his bread and butter to invariably avoid temptations which offer themselves in specious guise.

It will be said, of course, that an architect should think more of his art than of his alimentary canal. I must confess myself sufficient of a Philistine to subscribe to such a theory only with many reservations. It is generally—I say generally, not wishing to be too dogmatic—propounded either by those who have never a moment's anxiety as to bank balances, or else by some enthusiast who can live on the "smell of an oil rag," and whose work will possibly be as evanescent. But to-night we are thinking of the mediocrity, the man who will do nothing startling, but who will put his best into what he does, an achievement which means strenuous labour on his part and requires help from his better situated colleagues, not obstruction; encouragement, not exasperation.

You may rightfully ask for some high lights in a picture created with a heavy brush and from what you may consider to be too sombre tints. It is neither unkind nor unwise, however, to remind the students of our Society that the profession upon which they have embarked makes such heavy demands on their ability and patience. It is, however, not improbable, and the prospect is certainly encouraging, that those who are now passing through their apprenticeship, or through the subsequent fateful decade, will eventually enter on a goodly heritage. I refer to the growing interest that is being taken in various social problems, the attention that is being given to the housing of the poorer classes, the recognition of a need for better education and for improved conditions under which children can be taught, and the slow, penetrating knowledge that disease, once regarded as a necessary evil, can be successfully combated by hygienic surroundings. Of much importance also is the awakening interest in town planning and the "city beautiful," which, although still in the yawning stage, will develop a lusty liveliness, possibly causing surprise to those who languidly think that cities are for them, and are quite oblivious that they are for the cities. These movements, as they become more vigorous and democratic, more practical, and less garlanded with much platform rhetoric, should give scope for many of our craft—modest compared with other work which they see around them and of which they read in their somewhat unfrequent visits to our library, but inspiring in the results they may bring to those of our fellows whose present acquaintance with architecture is a room in a tenement or a squalid cabin on a bog. Thus to our students may come the opportunity, not perhaps to build "the churches with spire steeples pointing as with silent finger to the sky and the star," the gorgeous palace, the solemn temples of law and government, but to house their countrymen in dwellings well planned and stoutly built, health-giving to those who abide in them, and a delight to those who pass them by.

It must, however, be remembered that where the battle is, there will the eagles be gathered togther. Expected political and social changes, bringing in their train an anticipated era of building, will most certainly attract others from afar, and the benefit of being the man on the spot will disappear if he be inferior in skill to his competitors. I do not, of course, for a moment consider that any of you would subscribe to what I may call the "ring fence method" of holding his own. It is a pernicious system, in my view, and consists of erecting an imaginary low fence over which no one outside the charmed circle may trespass, and inside which the occupant lies down and hypnotises himself into the belief that he is the Great I T. Of course, if everyone played the game it might have the merit of success, but it is found that the moment the question of money comes into play, businesslike people peer over the fence to find whether there is higher value outside it, and if rightly or wrongly they think there is, the ring fence is but a poor fortification. You will agree with me that it is safer to equal one's competitors, and if possible to surpass them; then one may be fearless of the future, a condition of mind which it is worth many years' struggle to attain.

In this address I have leant towards the material side of our profession, the scholarship, which is more of the merchant than the artist, the garnering of knowledge, which you may say is more germane to the till than to the T square. I will bow to such criticism, and am not dismayed by it. In these days we live amongst such poignant realities. To many of the men, the communities, the boards and the councils that build, Art, as such, is non-existent. To them the claim of the inglenook is of less importance than a chimney that will draw, the fascination of a quaint gable is as nothing to the soundness of the roof; you call their attention to an excellent conception, they ask you if the drains are all right. A dwelling well built, warmed, ventilated and lighted is of prime importance to man for the sake of his health and comfort. If it be carefully planned and designed in beauty, it adds to the amenities of life. In this conjunction of Art and Science will be found the proper function of the architect; but be the elevations never so original and pleasing, the architect will have utterly failed if the foundations give, the windows are not weatherproof, the floor boards gape, the plumbing be doubtful, and the client finishes up in a lawsuit with the contractor; and while we may endeavour to cultivate public taste, it must not be at the expense of public comfort. Therefore if we neglect essentials of business, I fear that a refuge amongst the clouds of Art will neither be grateful nor comforting.

Hence it is to others more fitted that I will leave advice as to how the details of our art may be acquired, to awake in your breast an enthusiasm for line and colour, to inspire you with a proper pride and love for the more spiritual side of our profession, if any of you need such treatment. I realise all these things, but have preferred to give a message to those in this Association for whom we are endeavouring to find a place—not in the sun, perhaps, but just one step in advance of what they might achieve were we back in the gloom of the early nineties, when the Association was non-existent and the new School of Architecture at the National University undreamt of. They were days when the younger architects were isolated units, with no apparent community of interest, with no meeting ground upon which to discuss their difficulties and their aims, no society which, with its present spirit of comradeship, is, as I happen to know, the envy of other and much larger associations elsewhere.

My remarks are meant as a reminder, perhaps unnecessary, of the difficulties of our profession, the constant, never-ending task that is set before those who wish to prosper in it; of the strongly-supported uncultured competition that must be faced at home; the highly-trained competition that must be met abroad; the urgent call for collective action to impress the needs of the younger man on the representative societies; and beyond all, the necessity for a loyalty and friendship, one with another, if our profession and ourselves are to be respected and we are to hold our own. It is a lengthy, and might well prove a dispiriting recital, were it not that, commercial as so many of our duties and thoughts are to-day, there is also much that in a peculiar fashion lifts our calling above all others. Our work, while intensely practical, is, and, in Ireland, may be still more closely associated with a great national renaissance, the uplifting of the physical existence of fellow-countrymen to a hitherto unknown standard of home comfort—the tuning of their minds to a more perfect discrimination between the

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false and the true in architecture and a most glorious wardenship of national health. Beyond all these factors there is that strange, intangible link binding us to generation upon generation of bye-gone architects, whose dust is of the earth, yet whose work gains added life with the passing years, whose creations are cherished far above the most precious jewels, for within their walls history is itself enshrined. Even from the war, which occupies our thoughts to the exclusion of all else, which has made this address a difficult task to write, and I am sure an added difficulty for you to endure, architects may glean a comforting and exalting lesson. The battling armies, the hideous tale of casualty, the changes for good or for evil that may follow victory or defeat, fall short in their effect on the public mind of the news of disaster to the old-world buildings of Belgium and France. The appeal made to their fellows some 700 years ago by those who planned and watched stone upon stone develop into the great Cathedral at Rheims, remains still potent to-day throughout the civilised world, which stands equally aghast, be it remembered, at the destruction of far less ambitious dwellings, by unknown and long-forgotten architects, that formed the chief charm of Louvain. No greater tribute could be paid to our profession. These are some of the high and inspiring notes in the dreary monotone of our work, and poor thing indeed would he be in whom they evoked no responsive thrill. And although this address may sound despondent in a sincere effort to warn the modern student of the difficulties that beset those who look on architecture as a rather good joke, or at all events as a craft to be considered at certain painful moments between ten to five each day, I would, after all, prefer that their eyes should be turned towards the oriflame of high endeavour, that has been borne gloriously aloft by the architects of countless ages, and to remind those in the rank and file of our profession to-day who may suffer some of the ills of my imaginary friend of this address that, should they find their steps ever faltering, here in our Association are friends and colleagues, striving for the same goal, who can spare for them in abundance of their sympathy and their aid.

WAR CLAUSES IN BUILDING CONTRACTS: INSURANCE AGAINST WAR RISKS.

Following upon a joint meeting of representatives of the National Federation of Building Trades Employers, the London Master Builders' Association, and the Institute of Builders, held soon after the outbreak of war, the President of the R.I.B.A. received a request from the President of the Institute of Builders that a deputation from the above-named bodies might be interviewed by representatives of the R.I.B.A. with a view to an agreement being come to upon special war clauses for insertion in building contracts. Mr. Max Clarke, Chairman of the Practice Standing Committee, Messrs. Edward Greenop, and Percival M. Fraser, with Mr. Matt. Garbutt as Hon. Secretary, were accordingly requested to meet the contractors' deputation. The meeting took place on September 4, says the R.I.B.A. *Journal*, the builders being represented by Mr. F. G. Rice, President of the Institute of Builders, Messrs. Benjamin J. Greenwood, A. W. Sinclair, F. Higgs, W. F. Wallis, Thomas Costigan, Secretary of the Institute of Builders, and A. G. White, Secretary of the National Federation of Building Trades Employers. One of the matters to which the deputation drew especial attention was the possibility that prices of materials might increase in a way which, when combined with other conditions, might cause heavy loss to contractors. Cases were instanced in which several months were allowed to elapse between the date of delivery of a tender and the date of its acceptance. The Practice Committee have since carefully considered this and other matters relating to building undertakings affected by the war, and have reported to the Council. The result, as regards the main points, is contained in the following letter, which has been addressed to the Institute of Builders and the National Federation of Building Trades Employers:—

November 18, 1914.

Dear Sir,—I am desired to inform you that the Council of the Royal Institute of British Architects have now completed their consideration of these two questions. The Practice Standing Committee has carried out an exhaustive investigation into the circumstances and we have had the great advantage of the collaboration of the representatives of the builders.

After the most careful consideration of all the circumstances the Council have finally passed the following resolution:—

"That the Council of the R.I.B.A. are of opinion that they cannot usefully take any official action with regard to providing in contracts against war risks or variations in cost of materials caused by or attributed to the war, and that it considers that it is best that each matter as it arises should be dealt with upon its merits by the parties concerned."

In communicating this resolution to you they will be glad if you will kindly express to the Council of your institution their appreciation of the assistance which has been so readily extended to them in the consideration of these important matters.—Faithfully yours,

Ian MacAlister, Secretary.

THE CONCRETE INSTITUTE.

At a meeting of the above on Thursday, November 19, the following presidential address was delivered by Professor Henry Adams, M.Inst.C.E., M.I.Mech.E., M.S.A., F.S.I., F.R.San.I., &c.:—

Gentlemen,—In opening the present session with a few personal remarks it is my first duty to express my appreciation of the great honour which has been conferred upon me by your Council, who by their unanimous vote have elected me to the presidential chair for the next two years. This is in accordance with the custom which has obtained in this Institute since its foundation, but in these democratic days I am doubtful whether such a course commends itself to the membership, or is consonant with the trend of public opinion. I would rather see the nomination of President and Vice-Presidents submitted to the vote of the general body of the members. This matter is under the consideration of the Council, and I hope that the various alterations in the Articles of Association which are proposed will include some means by which the members all over the world can take part in the elections, not only of the chief officers but also of the Council generally.

The Institute is, I am happy to say, in a very flourishing condition. There are at present on the roll sixteen honorary members, 933 ordinary members, twenty-seven associate members, six associates, fifty-one students, and five special subscribers. Although the numbers are for the present satisfactory, it must be remembered that there is a constant outflow due to deaths and resignations, and that merely to maintain the *status quo* about fifty new members are required each year. With a young and progressive Institute like this there ought to be no difficulty whatever in doubling this number, and as the influence of the Institute, and its capability for benefiting its members, increases with every addition to the membership, it is to be hoped that efforts will not be slackened until the two thousand is reached.

The unfortunate war now in progress has already had the effect of checking building enterprise, and it may be some considerable time before a recovery takes place; but beyond this the call of the nation for volunteers to join our Army and take part in the defence of our coasts must have a depressing effect upon the membership roll, and it will be no cause for wonder if there should be a temporary falling off.

Our financial position is satisfactory, although last year our expenses exceeded our income by a small amount. This was due to various special causes, chiefly the printing charges, which were in excess of the usual amount, owing to the number of tables and diagrams in the *Transactions*. The annual subscription, notwithstanding it having been increased, is still below the average of other Institutions, but the Council consider that it will be sufficient to carry on the ordinary work and leave a small margin for developments. When our funds increase there are many useful directions in which we could employ the surplus.

A library is in course of formation, and a catalogue will shortly be issued. The new methods of construction are developing so rapidly that a constant study of the literature of the subject is necessary, and the Council wish to give every facility to the younger members to improve themselves at a minimum cost. Naturally some of these younger members are too diffident to join in the discussion at the ordinary general meetings, and the Council have therefore inaugurated a series of informal monthly meetings for the junior members only, at which a member of the Council takes the chair and friendly discussions ensue upon

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a subject announced beforehand, or upon a short introductory lecture given by one of the members.

The report of the Council presented at the annual general meeting held in May last was so complete that I need not take up your time with recounting the details of the papers, visits, committee work, and so on, which often help to make out a presidential address. I would only say that as far as possible the activity which characterised the last year's work will be fully maintained during the coming year; but the war must affect our Institute and the work of its members in one way or another, so that, without endeavouring to foresee the ultimate results, I would say that for the present our motto is, "Business as usual."

The extreme importance of the official "Regulations for the Use of Reinforced Concrete" in London—in the preparation of which this Institute, with other bodies, was consulted—has caused the Council to devote a considerable amount of time and anxious thought to the discussion of the various propositions during the last five years. While they desired to place no difficulty in the way of sufficiently safeguarding the public in the use of this method of construction, they were, on the other hand, in duty bound to their members to see that no unnecessary restrictions were placed upon it. For the first time in history the authorities have suggested an alteration in the laws of mechanics in order to provide against bad workmanship, and I cannot help thinking that this is a mistaken method of securing safety, and in any case the formulæ should have been relegated to an Appendix. What would be thought if, in the Steel-frame Building Regulations, incorrect bending moment formulæ were given by which the girders were to be calculated to compensate for insufficient riveting to resist shear? In that document results only are stipulated for, the stresses being assumed to be calculated by the ordinary laws of mechanics.

In M. Béhar's paper on "The True Bending Moments of Beams with Various Degrees of Fixity," the matter was summed up as follows: "It appears obvious to me that an engineer or architect who may be called upon to apply regulations concerning reinforced concrete should have sufficient knowledge of the laws of mechanics to be able to deal with the various problems which he may have to study; and to oblige him to follow certain formulæ would practically imply that he is incapable of exercising proper control of any scheme or problem in reinforced concrete which he may have to consider."

You are probably well aware that the actual distribution of stress in a complete structure can only be approximately estimated, and that reliable data for constructional work can only be slowly gathered by extended experiments and minute measurements of the induced strains, which take both time and money, but until we have more precise knowledge I maintain that if we adopt the accepted laws of mechanics we shall not go far astray. I must not say any more about these Regulations at present, as they are still *sub judice*, but I do hope that when they appear they will be in a form to command respect as well as compliance. I would, however, just add that in the last proof that has been received, out of eighty-seven suggestions made by this Institute, sixty-five have been adopted, and there is some ground for hoping that the final revision will include a good proportion of the outstanding balance; at any rate, we are assured that facilities will be given for revision from time to time after the Regulations have been tested in practice.

If the Concrete Institute has emphasised one thing more than another in connection with the materials the members are interested in, it is the necessity for the best possible workmanship and the utmost care in supervision. The majority of the failures that have occurred have been due to improper materials or careless workmanship. Part of the secret of good work is good pay for it. Where labour is cheap the output is poor both in quality and quantity. We have a good illustration of this in the employment of natives in India:—

> Oh, life is cheap in the golden East,
> And labour even cheaper;
> *But the seed for which you have paid the least*
> *Brings least at last to the reaper.*

In my remarks upon the subject at the International Congress of Architects eight years ago I paraphrased the old saying that "nothing succeeds like success" by "nothing succeeds like failure," because I believe that a proper study of failures will do more than anything else to ensure success. In 1912 the Concrete Institute formed an "Investigation Committee" for the purpose of studying failures as they occurred, but the natural desire of all parties concerned to hush up the failures has prevented the Committee so far from doing much useful work, unless the fact of its existence acts as a bogy to frighten the careless operative. It may be well to remind you that a schedule has been drawn up for recording the details of such failures as are brought to the notice of any member, and all such schedules are treated as confidential by the Committee unless permission is given by the parties concerned to make public use of them. It is the misfortune of engineers that their successful works, unless of exceptional magnitude, are without interest to the man in the street, while their unsuccessful works attract more attention than is desired. Architects are not quite so badly off, because their works appeal more to the eye of the general public, and if anything does go wrong they meet with some sympathy. The bond of association which renders it possible for engineers and architects to meet freely within the walls of our Institute lies undoubtedly in the fact that the subjects discussed have similar interest for both. There is a sort of neutral zone in reinforced concrete construction where the engineer and architect are equally at home, and this alone renders our Institute unique in its membership.

The scientific principles of reinforced concrete and structural mechanics are now so well known that the failures due to ignorance on the part of the designer are conspicuous by their absence, but frequently there are failures reported which are due to the formwork being badly designed and fixed, or removed too early. Too often these matters are left to the foreman carpenter, and however conscientious he may be his goodwill is no substitute for experience. *Festina lente* ("Make haste slowly") is, I think, an exceptionally good motto for us and our work. Near Auburn, California, a reinforced-concrete bridge in three spans was under construction towards the end of last year. The work was being rushed day and night by the contractors in order that it might be finished before the river rose, and on the night of November 4 the formwork under one end span collapsed, allowing the whole mass to fall, killing some of the workmen and injuring several others.

In engineering works, such as reservoir dams, other causes of failure have been found, one of the most remarkable of which is the action of alkali on concrete. Where junctions occur between successive portions of the work a leakage is most likely to take place, and if any alkali exists in the earth resting against the wall which the leakage can reach, a very rapid disintegration of the concrete is found to take place.

A curious objection has been taken to building in reinforced concrete, which is that it is so difficult to pull down. It is frequently said that it costs more to destroy a building than it does to put it up. It must be admitted that this method of building does not lend itself readily to alterations; and although I have not personally come across a case where this has been a serious matter, there is a recent instance in Germany where some concrete vaults which had to be removed cost twice as much to destroy as they had cost to build. In some other cases it has been found that only by recourse to blasting operations has it been possible to break up the work in this material, but the imperishable character of the structure and the small cost of upkeep are really very great points in its favour. Their inherent strength and the nature of their stability render these buildings peculiarly suitable to withstand vibration, and even earthquake, whereas ordinary construction is only stable while at rest, and the slightest earth tremors may have a disastrous effect.

Brickwork is one of the best fire-resisting materials, but a building cannot be erected in brickwork alone, and considerable loss of life has occurred in fires from the walls falling as they ceased to receive the support of the floors and roofs. Reinforced concrete, on the other hand, can be used not only for the walls, but for the floors and roofs also, and the steelwork, which is often the cause of the greatest danger in a brick building, is so protected by the concrete that the fire has practically no effect upon it. Limestone must not be used in the aggregate, as that burns to pure lime in a fire and swells and disintegrates when water comes upon it. Coke breeze as an aggregate was found to stand fire well in the experiments made by the British Fire Prevention Committee, and for that reason has been largely used by architects; but coke breeze has sometimes a deleterious effect upon the steel reinforcement, and is liable to swell in damp situations or if water reaches it. An indication of the value of reinforced concrete is given

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in the fact that a lower premium is asked by the Fire Insurance Committee for buildings in this material providing the floors are not less than 5 inches thick and the walls not less than 6 inches thick.

It will be interesting to look back upon some of the troubles that faced the early workers in reinforced concrete, and to see how such troubles have been surmounted. One of the most frequent difficulties found in the early days of reinforced-concrete building was the occurrence of cracks in the finished work. Some of these were undoubtedly due to over-limed cement and to coarse grinding, but the improvement effected by the publication of the Standard Specification of Portland Cement and the endeavour of manufacturers to keep up with it, and even to surpass it, have virtually eliminated this cause of trouble.

A still frequent cause of cracking is shrinkage upon the drying out of the moisture, but a remedy for this has been found in what is called "temperature reinforcement," which consists of the insertion of light rods, say ¼-inch diameter, and not more than 12 inches apart in the opposite direction to the main reinforcement and near the surface, whereby the shrinkage, being confined within these limited areas, is so slight as to be invisible. Other causes are sudden changes of thickness, changes in the composition of the concrete, local currents of air upon the concrete while setting, insufficient reinforcement allowing deformation to occur, &c. Where the new surface is exposed to the sun the changes of temperature are apt to cause "crazing," particularly where the surface skin is richer in cement than the body of the work. The best remedy for this is perhaps to brush the surface with hydrochloric acid, and then wash it with clear water.

Another cause of early difficulty was the uniformity in size of the larger aggregate. When the maximum of 1½ inch was reduced to 1 inch it was thought that this would be effective in producing solid concrete capable of being packed closely round the reinforcement, but tests showed that it was necessary to grade the aggregate from ¼ inch to ¾ inch to make sure of obtaining a solid concrete without voids and in perfect contact with the steel. In the same way the sand was found to produce better work when it was not of uniform size but graded from $\frac{1}{10}$ inch to $\frac{3}{16}$ inch. As the cement has to envelop every particle of the aggregate, and cement one to the other, the grading involves the use of a smaller quantity of cement as the voids are small, and also reduces the waste of aggregate, as nothing but dust has to be thrown away.

Much valuable work has been practically lost because of the difficulty of co-ordinating experiments made with different materials under varying circumstances. An important suggestion has been made by one of our members, Mr. John A. Davenport, that for some time to come all experiments on reinforced-concrete beams, columns, and similar structural members should be made on a standard steel and a standard concrete. By "standard steel" is meant one having a particular ultimate strength, yield point, elongation, and contraction: these could vary between limits, but the variation should be kept small. By "standard concrete" is meant one made of one particular coarse material, one particular sand, and one particular cement, always mixed in the same proportion with the same amount of water. The coarse material should always have the same sizes and grading, and the sand should likewise have definite sizes and grading which must always be the same. We should then be able to decide definitely many of the points which were the subject of lengthy discussions during the preparation of the Local Government Board Regulations—for example, what constituted fixed ends to beams, what width of floor slab should be taken as the flange of a T-beam, what was the actual economy of double reinforcement, how far a concentrated load might be considered to have spread by the time it reached the reinforcement, the comparative value of vertical and inclined shear stirrups, adhesion between the concrete and the reinforcement, the economical value of deformed bars, &c.

A Joint Committee of the Concrete Institute and the Quantity Surveyors' Association have prepared a synopsis of a "Standard System of Measurement for Reinforced Concrete Work" which will greatly facilitate uniformity in the preparation of bills of quantities and reduce the risk of errors of misunderstanding and consequent disputes. The story of a remarkable blunder was related in the Chancery Division of the Law Courts on January 30 last, when the Commissioner of Works was allowed rectification of a contract with Messrs. W. King & Co., contractors. The Solicitor-General explained that the contract was for the construction of the Western District Post Office building in Wimpole Street. The contractors scheduled reinforced concrete at so much per cubic yard, and when the schedules were sent to be typewritten "yard" was altered to "feet," the effect being to alter the price from £20,000 to more than £133,000.

The Council have in hand a standard specification for reinforced concrete which is nearing completion, and if more uniformity in drafting specifications for such work can thereby be obtained there will be more certainty in the tendering and a greater absence of sporting items. The absence of immoderate or harsh clauses should lead not only to better work but also to cheaper construction. In publishing a model specification, however, and in widely circulating the information contained in the papers read at the meetings, there is some risk of encouraging incompetent men to attempt to prepare designs and carry through construction in reinforced concrete; but although such works would be likely to be small and insignificant, it cannot be pointed out too emphatically that success can only be obtained by employing men who have specialised in this class of work. Three years ago in Boston, U.S.A., the corner of a large building collapsed owing to improper foundations being put in for a column supporting a great weight, and the contractor was killed. He was acting as architect as well as builder, although a few years previously he was only a teamster. Was this an accident or a just retribution? Nature has no mercy, and if her laws are broken the penalty is certain. At the Sixth Congress of the International Association for Testing Materials, held at New York in 1912, the question of universal standard specifications was mooted, but there seem to be insuperable difficulties in the way at present. It was suggested that when each country got its own perfect specification it would be time to compare them and arrive at a single result, but I am afraid we are a very long way yet from that happy end.

I think it may be useful for us to consider for a few minutes what is the usual method followed at present for obtaining the design for the structural parts of a reinforced concrete building and whether that method conduces to economy. The routine in most cases is for the architect to prepare an outline drawing showing the plan of each floor, with the cross walls, openings for doors and windows, and positions of stairways, lifts, &c., marking on it the loads to be carried and the height of each floor. He then obtains designs and estimates from a certain number of firms who devote themselves to this class of work but are each identified with a particular detail of construction, and, selecting the offer which he considers the most suitable and economical, completes his own designs, and puts them before his client for approval. Now the question is, Does this method lead to economy and security? The designs so obtained, being competitive, are naturally based upon the minimum requirements of safety, and leave no margin for accidental errors or faulty material or workmanship, and some of the failures may possibly be due to this cause. I do not intend this as any reflection upon the skill or honesty of the specialists who at present prepare the majority of the designs, but it is not in human nature to provide more than the bare necessity of the case demands when the success of the tender depends upon the cost being kept down to a minimum. The Institution of Civil Engineers has recently issued a circular deprecating the preparation of designs in competition. As a consulting engineer, I may perhaps be biased, but I am of opinion that collaboration between the architect and the structural engineer is the preferable course, so that a single design may be prepared upon which contractors may tender upon a common basis. Against this it is often said that engineers' designs are expensive, and that there is no advantage in calling in an independent expert to prepare the design; but I think it will generally be found that the additional cost is due solely to a larger amount of reinforcement than appears in competitive designs, with the result that the building gains in greater stability.

There is another aspect of the case, and that is that when several designs are submitted the cost of the unaccepted designs has to be met somehow. It increases what we may call the establishment charges, which must be met by a percentage added to the actual cost of all work, and the only advantage appears to be that with many men working upon the same scheme some one among the many may evolve a better result than one man alone would be likely to do.

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The Local Government Board are responsible for retarding the progress of reinforced concrete to a very great extent. Many structures that would have been put up in that material have not even got so far as the design, because of the known opposition of the Board and the heavy expense thrown upon the promoters by reason of the short period for which a loan would be granted. They have fixed no actual periods for loans for the various classes of work, as each case is considered on its merits, having regard to the purpose of the work and its position, but they vary usually from ten years where the work is in contact with water to thirty years in the floors of a building.

If there were any reasonable doubt as to the probable duration of reinforced-concrete structures in general, the Council of the Concrete Institute would be the first to know it; but they have the evidence of their own personal investigations that it exceeds fifty years, and they do not hesitate to advise its use where that is not hampered by the consideration of a loan through the Local Government Board. When the Eddystone Lighthouse was pulled down in 1884 a bundle of iron rods which had been accidentally left in the concrete foundation in 1757 (127 years) was found to be in perfect condition, and one would have supposed that was in a sufficiently exposed situation to prove the safety against corrosion.

Within my knowledge the construction of a large reinforced-concrete seaside pier was quite recently abandoned after completion of the designs because the Local Government Board would only allow ten years for the repayment of a loan for its construction. In another case the Local Government Board refused to allow more than ten years for the repayment of a loan of £10,000 for a reinforced-concrete storage tank. The tank was then re-designed in mass concrete to cost £13,750, for which the Board allowed twenty-five years for the loan repayment, making the annual charge £880, as against £1,233, which would have been required for the less costly tank on the ten years' basis. Had twenty-five years been granted in the first case, the annual charge would only have been £640. Fortunately there are many cases that do not depend upon official mercy. A sea wall, 300 feet long, in reinforced concrete has just been erected at Carnarvon by the Harbour Trust in extension of an existing masonry wall, to afford increased wharfage for oil-tank steamers and to reclaim about two acres of the foreshore. The existing heavy masonry structure, 20 feet high from shore to coping, rested on a foundation 6 feet below shore level, and it was originally intended to construct the extension in a similar manner. There were many ingenious features in the design carried out, but the point I want to make is that the cost of this work in reinforced concrete was about £2,000, while the lowest tender for the masonry wall was £4,600. The corrosion of the reinforcing rods when the concrete is in contact with water, fresh or salt, continuously or intermittently, is only possible under exceptional circumstances.

A novel application of reinforced concrete has recently been made in the construction of a floating wharf in Sydney Harbour for berthing steamers on each side. The pontoon is 100 feet long, 43 feet wide at one end and 68 feet at the other, 7 feet 9 inches deep, with a 32-inch freeboard under full load. There are forty-eight watertight compartments, and the total dead weight is 650 tons. The live load allowed for is 150 tons. Apparently no fear of sea-water acting prejudicially upon the reinforcement troubles the minds of the promoters in this case.

So much has been said lately about structural engineering, and so many persons seem to be in doubt as to what is meant by it, that I should like to devote a short time to its consideration. It is a great mistake to suppose that it consists of steel-framed buildings only; that is merely one branch of a very large subject. Reinforced concrete is another branch—a very large one, and possibly the main stem, at least for us. These two forms of construction will in future, so far as we can foresee, constitute the chief work of the structural engineer, but buildings in other materials—wood, stone, and brick—come under the head of structural engineering when the chief object is stability. Bridges, towers, jetties, retaining walls, roofs, tanks, reservoirs, dams, and many other structures would come under this classification, and it is to enable us to deal with all these in our papers and discussions that the Council have endeavoured to broaden the scope of the Concrete Institute. Bridges alone should be a fertile subject. So many examples have now been completed in reinforced concrete that we can form a fair idea of the value of that mode of construction. It has a distinct advantage over brickwork and masonry in being able to resist tensile stresses and changes of compression and tension due to rolling loads.

No one type is predominant, but the arch enters into most of them. An arch is not only a pleasing form of construction: it is based on sound scientific principles and is an economical disposition of material. I have considerable doubt whether it is desirable to construct hinged arches in this material, whether two-hinged or three-hinged. It appears to me that it is almost equivalent to using simply supported girders when you have the opportunity to make them continuous. There is, of course, the advantage that the line of thrust must pass through the hinges, but there is no difficulty in so proportioning an ordinary fixed arch that the line of thrust nowhere unduly leaves the thickness provided. It may be said that no one knows the exact course of the line of thrust, but we know that Nature takes the course of resisting a load with the minimum of stress, and we shall not be far wrong if we take the line of thrust so that the extreme stresses on the opposite haunches are as nearly equal as possible. The favourite method of construction seems to be a flat or cambered floor with cross and main beams and pillars from the main beams to the arch itself, the arch being a continuous sheet or ribbed sheet; when the latter the pillars are braced transversely and the arch is stiffened by a repetition of main and cross beams similar to those under the bridge floor. In this work, as in all arches, it is necessary to provide rigid abutments, but reinforced concrete will withstand a shifting abutment better than any other material.

The progress made in arched bridge-building in reinforced concrete is remarkable for a comparatively new material. Among the larger examples we have 233-feet span in the Walnut Lane Bridge, Philadelphia; 320 feet at Grafton, New Zealand; 328 feet over the Tiber at Rome; 330 feet at Largweiz, in Switzerland—all within 100 feet difference. Now we have the proposed Spuyten-Duyvil Creek Bridge at New York, where a span of 703 feet is proposed, or more than double.

The general movement that has taken place throughout the kingdom to improve the high-roads has not gone so far as it might have done in the direction of improving the existing bridges. As reinforced concrete is such an admirable mode of construction for highway bridges, the Concrete Institute formed a joint committee with other bodies to standardise the loading to be provided for in bridges of different classes. They collected information from all parts of the country of the weight and dimensions of the actual traffic, and decided what maximum loads each class of bridge should be rated to carry. Their labours are nearly completed, and it is hoped that they will be able to produce a single chart that will reduce the draughtsman's labour to a minimum.

Although steel, according to the late Sir Wm. Siemens, has been used for structural purposes from the year of the Great Exhibition (1851), the modern use of steel framework in the construction of high buildings dates practically from 1881 in America, and more recently in England. The extensive use of steel in all classes of buildings at the present time makes the study of steel-framed construction of the utmost importance; but it is a very great mistake to imagine that any member of this Institute wishes to put reinforced concrete in the background because of the importance of steelwork. Our Institute was built up on reinforced concrete, and it should be the primary care of the Council to see that it does not suffer by reason of any extension of the scope to other modes of construction. As one instance of the importance of a study of steelwork, I may mention that the Equitable Life Assurance building of forty-one storeys now being erected in New York will contain nearly forty-five acres of floor area; and 35,000 tons of steel, held together by a million rivets, will be involved in the construction, the total cost reaching £6,000,000.

But steel-framed buildings, although the chief branch of metalwork to interest us, is not the only one. We must know something of bridges in metal before we can properly make a comparison with those in reinforced concrete, and it is not the smaller ones only that we should study. A steel bridge now constructing in this country for erection across the Ganges is a mile long, in fifteen spans of about 350 feet each, and will contain 30,000 tons of steel. This is a gigantic affair and beyond the probable professional outlook of many of us, but there are many intermediate structures between that and a rolled steel joist which we can study and discuss with advantage.

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The Science Committee have for a long time past endeavoured to gather useful information upon the driving and supporting power of reinforced concrete piles, but so far they have not been able to collect sufficient material for a report. Records of the weight and fall of ram, number of blows, and distance driven are very numerous, but comparatively useless. Sometimes the records are accompanied by particulars of a test, when the pile sustained a given load without yielding, but whether it would have yielded with ten or twenty times the test load we have no means of knowing. What is required is a series of experiments with small piles, say 10 inches square, 20 feet long, driven 15 feet, and then loaded until they sink farther. This would do for a beginning, and would enable us to compare reinforced-concrete piles with timber piles. I have a collection of about forty formulæ for the latter kind, all more or less unreliable, but none at all for the former. At Halifax, Nova Scotia, the largest reinforced-concrete piles have been recently driven by the largest pile-driver in the world. The piles were 2 feet square and 77 feet long; the hammer, follower, and follower-guide weighed 28,000 lb., and the ram alone weighed 4,000 lb. With a mean effective steam pressure of 80 lb. per square inch in the cylinder of the engine operating the driver the hammer is rated to develop 3,916,000 foot-lb. per minute when striking eighty blows per minute. Twenty-five piles have been driven by this machine in a ten-hour day. But this record is already exceeded by some piles at Havana, and tenders have been called for a pier at San Francisco in which piles of 91 feet long and 20 inches square are required to be constructed. They will weigh 15 tons each, and are specified to carry in addition to their own weight a load of forty tons. The concrete will be 1 : 2½ : 5, and will be allowed forty-five days for setting before being driven.

Reinforced concrete has been the means of saving a considerable expenditure of money in the cost of foundations otherwise than by piling. By enabling the pressure to be spread over a considerable area, without much doubt it has in many cases enabled buildings to be safely erected upon soil that would have defied the old method of putting in foundations. Concrete rafts have been used for a long time, but until they were reinforced it was not uncommon to find the heavily loaded parts punching their way through the concrete. Perhaps the greatest innovation is possible in connection with bridge foundations, which are often very deep, 100 feet or more below high-water mark. In the case of the Hawkesbury Bridge, in New South Wales, the foundations went down to 162 feet below high-water level.

Other matters might have claimed some of our attention to-night, but we have probably travelled over sufficient ground to exhaust your patience.

As I am speaking to an audience of experts, I am afraid I have told you nothing new, but it is important to emphasise well-known facts when they tend to produce sounder work and increase the credit that is due to the material in which we are all interested.

ARCHITECTURE OF LONDON HIGHWAYS.

By Viator.

FROM OLD BOURNE TO TY BOURNE.

Our peregrinations have at last brought us to the consideration of the lengthy route connecting Newgate Street with the Bayswater Road. It is, in fact, but a small portion of a much longer highway, which runs between Oxford in the west and Bow in the east, taking a devious course through Central London from Acton to Mile End.

In passing under review the present section of this highway—namely, Holborn and Oxford Street (with their individual eastern extensions)—the length of the route will necessitate the rigid exclusion of many buildings. Nor is this a misfortune, for there is so very much which the eye refuses to approve, so comparatively little upon which the eye feels justified in arresting its gaze, and so much less which possesses historical interest from the architect's standpoint.

We left Newgate Street many months ago;* now let us resume our journey westward. But prior to remarking upon any of the buildings, we will make brief reference to the street history. The most notable feature along this thoroughfare is the fine viaduct (1,400 feet by 80 feet), built half a century ago. Prior to its formation the east and west route was rendered peculiarly laborious by reason of Holborn Hill. The extent of this declivity may be gathered from an observation of the present position of the footway in regard to St. Andrew's Church, the latter being formerly approached by an ascending flight of steps, whereas now there is a descending flight; the upper levels of the "Hill" were to be found eastwards by Snow Hill and St. Sepulchre's Church, and westwards by Staple Inn.

Farringdon Street is the site of the old Fleet Ditch, which was spanned by a bridge to carry the Holborn thoroughfare. In former days Holborn was a country road leading westwards to the village of St. Giles, recalled to the present generation merely by the church of St. Giles-in-the-Fields (!), designed by Flitcroft. The Old Bourne was a tributary of the Fleet River, and has perpetuated its name in Holborn. These streams are now covered in and are utilised as sewers, the outlet into the Thames being visible (at low water) beneath Blackfriars Bridge. Westwards of Red Lion Street, the highway was flanked by hedgerows three centuries ago, and adjacent to the village of St. Giles a road ran northwards to Tottenham Court, the route westward continuing as the Oxford Road.

Subsequent to the cessation (in the year 1783) of executions upon the triple gallows at Tyburn (Ty Bourne), houses were erected upon Oxford Road eastwards of this point, and the thoroughfare received, in 1792, the name of Oxford Street, whilst westwards it has become known as Bayswater Road and Uxbridge Road, the significance of its extension beyond the country town of Uxbridge being thus lost sight of. As regards the gallows, a bronze tablet upon the railings of Hyde Park, close to the Marble Arch, records the position of the site of Tyburn Tree prior to its removal in 1789, the exact spot being marked by means of a triangular slab in the roadway, situated close to the refuge at the entrance to Edgware Road, which leads to the outlying village of Edgware.

And now let us regard some of the buildings along our route. The first (and one of the oldest) is St. Sepulchre's Church, on the north side of the Viaduct; it antedates the Fire of 1666, though far from coming off scatheless, for the interior was gutted. But it is the exterior with which we are concerned, and it is a truly worthy representative of fifteenth-century art. The fine three-staged western tower with crocketted pinnacles, the massive south-western porch with its upper chamber nicely emphasised by the oriel window—these are striking features of a church whose interest architecturally is supported by other of a historical nature. The tower bell was formerly tolled for the passing of the souls of the condemned at Newgate Gaol, and more than that, an old handbell (now preserved within) used to be sounded outside the condemned's cell, to the accompaniment of appropriate verses. But Newgate has been abolished and the buildings demolished, though an allied phœnix has arisen from the ashes. Incidentally we recall, when passing by Old Newgate, seeing the black flag hoisted on one of the last occasions (if not the very last) of an execution taking place behind those grim walls. It was the first time that our eyes had been so confronted, and Heaven send it be the last!

We will not linger before the buildings situated between this church and the bridge over Farringdon Street; but we will see what the south side of this portion of the thoroughfare offers to our view. The very size of it seems to demand that notice shall be accorded to the Viaduct Hotel and Station buildings; the architect, Mr. H. L. Florence, cannot be congratulated upon the result—the ill-proportioned arches of the entrance court, the poor dormer-line of the roof, the pimply pateræ in the arcade spandrels—these are features in a façade which is poor, even though it be honest. For when all is said in disfavour, the building does, in fact, express its purpose, so that honesty is in evidence as well as poverty.

And thereafter silence—until we reach the bridge. This bridge is a fine piece of engineering, devoid of architectural shams, but conveying a sense of art and fitness which raises it far above the level (a very low one) of the Tower Bridge. The winged sejant lions, the groups depicting Fine Art, Science, Commerce, and Agriculture, the lamp standards, are all good, and the four flanking buildings which contain the staircases connecting the Viaduct and Farringdon Street ably support in their architectural effect the engineering triumph of the bridge. They are stone-faced blocks of Renaissance design, but with a decided Gothic feeling about the windows—a peculiarity not

* See *The Architect*, September 27, 1912

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DESIGN FOR COUNTRY COTTAGE.

By Mr. G. BERKELEY WILLS, A.R.I.B.A.

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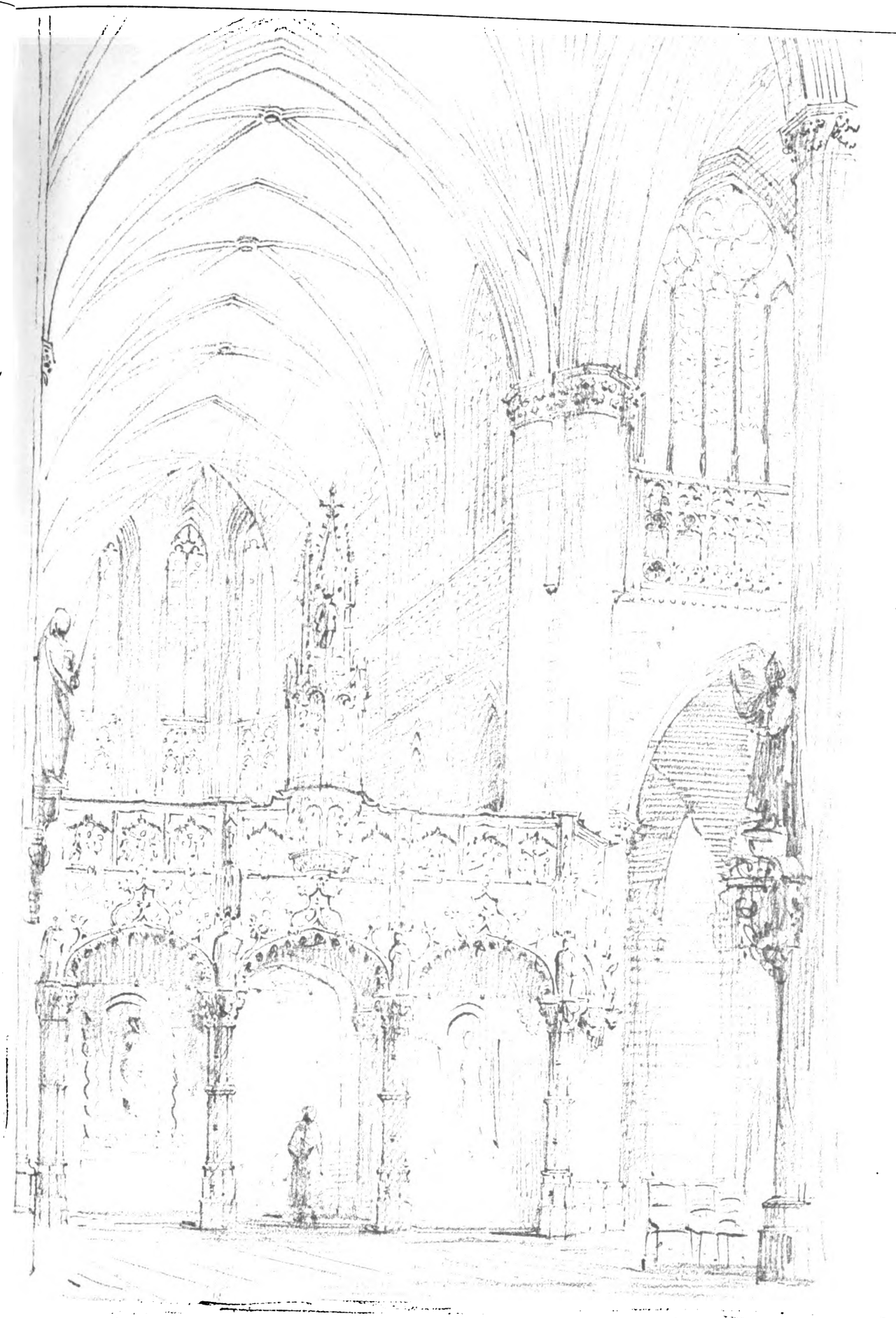


Cathedral of S. Martin
Alost, Belgium
North Transept.

Alfd H Hart
21st July 1887

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12/1914.



Alfred H Hart
30 July 1887

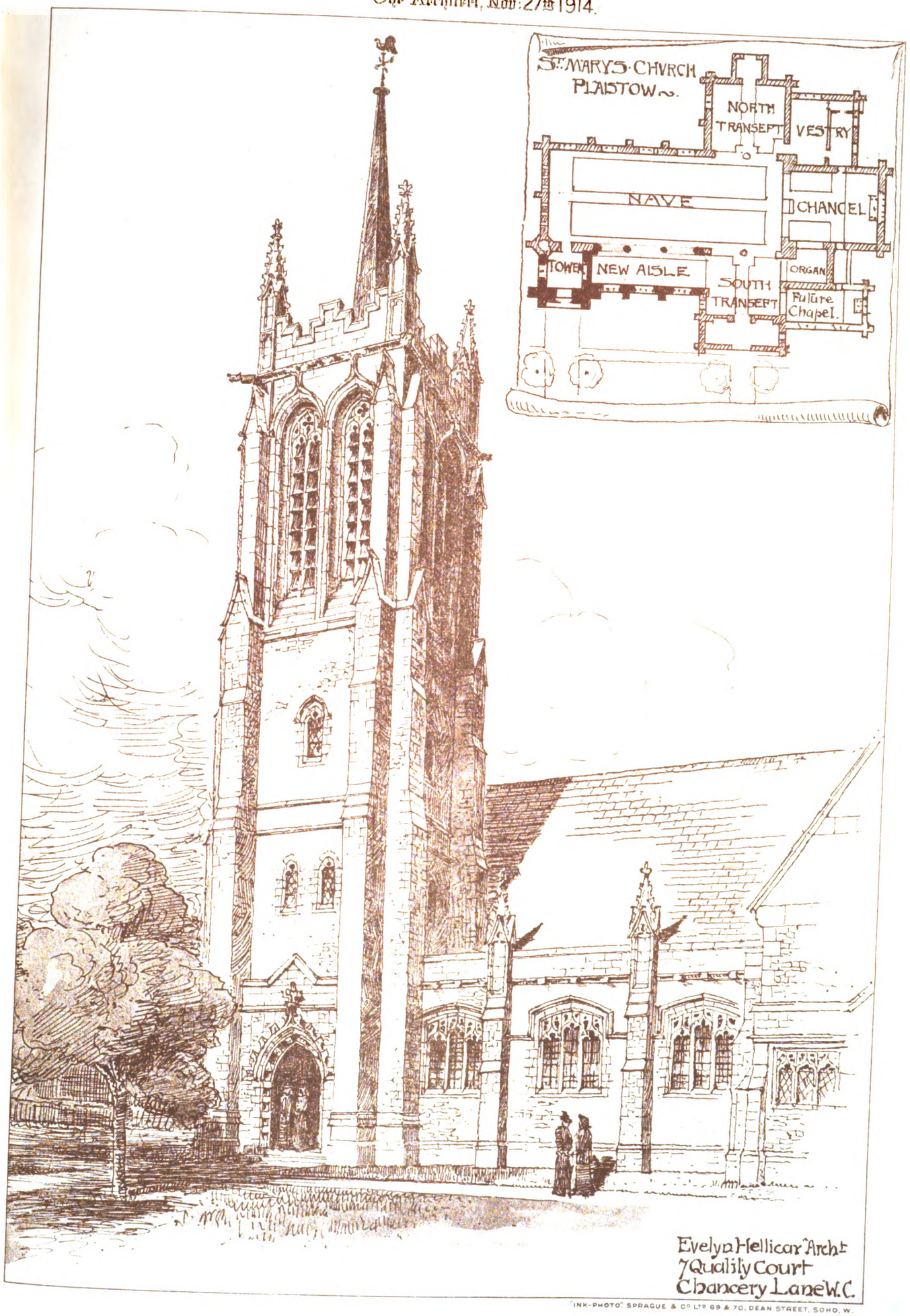
Stone Screen.
Lierre - Belgium

INK-PHOTO SPRAGUE & Co LTD 69 & 70, DEAN STREET, SOHO, W

BELGIUM.
HART, F.R.I.B.A.

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Evelyn Hellicar Archt
7 Quality Court
Chancery Lane W.C.

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(Royal Academy Exhibition, 1914.)

PRUDENTIAL ASSURANCE OFFICES DUNFERMLINE.

Mr. PAUL WATERHOUSE, M.A., F.R.I.B.A., Architect.

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displeasing and noticeable also elsewhere along this thoroughfare. But the main features of interest in these blocks are the statues of Henry Fitz Alwyn (first Mayor of London, 1189), Sir William Walworth, Sir Thomas Gresham, and Sir Hugh Myddelton.

Ecclesiastical art is again to the fore after leaving the bridge, for here on the south side of the Viaduct are the City Temple and St. Andrew's Church. The former dates from 1873, the latter from 1686, with Sir Christopher Wren as its architect. The City Temple makes a thoroughly reputable façade, though not absorbingly interesting. As for St. Andrew's, it is a building which we have never succeeded in experiencing pleasure in beholding.

Holborn Circus would certainly not arrest our footsteps for the inspection of the uninspired blocks erected about the same period as the Viaduct; but the equestrian group of the Prince Consort (the work of Bacon in 1873) is entirely worthy, not alone as regards the horse and its rider, but also as regards the delightful bronze panels on the podium. Hatton Garden and Ely Place, adjoining the Circus, recall interesting history, upon which it is impossible here to dwell; and the second one mentioned has also architectural interest in the Chapel of St. Etheldreda.

Proceeding westwards, we must not stay before Messrs. Thomas Wallis & Co.'s mammoth block (decent as it is), nor do we care to stay before Messrs. Buchanan's premises—a recent Gothic abortion in stone, which makes us shudder whenever we behold it; we approve the signature of buildings by their architects, though not so obtrusively as in the present case; but at least it shows that the architects are not ashamed of this design.

Who that loves Old London and the memory of Mr. Alfred Waterhouse will hurry over the next short portion of the thoroughfare bringing us to Holborn Bars, the confines of the "City"? Staple Inn is now one of the few relics of mediæval London, and some years ago there was a vandal intent to demolish these half-timber structures. We believe it was the Prudential Assurance Company which stepped in and purchased the block, which was entrusted to the capable hands of Mr. Waterhouse to render structurally sound. He, too, was the architect of the headquarters of this Company just opposite, a magnificent terra-cotta Gothic pile, with every architectural merit and (as we should think) no defects. In appearance the block might, indeed, be municipal buildings for their impressive dignity, an appearance powerfully supported by the fine tower over the central arched entrance, giving access to the quadrangle. It is a four-square pile, along whose western flank is a vista of Butterfield's famous church of St. Alban, Brooke Street. We pass on our way with steps that fain would linger, for we shall see nothing more of Mr. Waterhouse's work along our present route; he was, indeed, an architect who understood to the full the merits of ornamented construction, as contrasted with the demerits of constructed decoration.

But let us direct a glance now upon the south side of the thoroughfare and ask ourselves why should medallions of Flora, Ceres, Lord Leighton, and Canova appear upon a block of chambers? And why such a fussy employment of Carrara ware, a material which does not lend itself to decorative treatment? The dark grey polished granite substructure to the same block is magnificent, and we welcome the sight of the imposing entrance, where fortunately the impression is lacking, that the client preferred to spend a sovereign to a guinea.

(To be concluded.)

MISSION ARTISTIQUE BELGE.

THE first collective exhibition of Belgian masterpieces in London, an exhibition of Belgian pictures for the benefit of Belgian artists, has been organised under the high and distinguished patronage of His Eminence Cardinal Bourne, Archbishop of Westminster; His Excellency Count de Lalaing, Belgian Minister; and Sir E. J. Poynter, Bart., President of the Royal Academy; Sir Charles Holroyd, Director of the National Gallery; and Sir A. G. Temple, Director of the Art Gallery of the Corporation of London, have given their high approval. Over one hundred works which are signed by twenty well-known artists represent Belgian landscapes and types of parts of the country now devastated by the Germans. They consist of oil paintings, water-colours, etchings, engravings, and drawings, all of which were secretly conveyed through the German lines and brought to England from Brussels by two Belgians, Messrs. A. Du Plessy and R. Damman.

Belgian artists and their families have been plunged into great distress by the war and are faced with the prospect of years of want. By temperament and training they are unfitted for manual labour, and under German domination it is impossible for them to resume their calling. Thus Belgian art itself is in danger. This art, little known in England, is full of originality and charm and draws its inspiration from the natural beauties of the country. The present exhibition affords the British public an opportunity of expressing their sympathy with Belgian artists. The admission fee will be 1s., and the buyer of ten books of 100 tickets will be entitled to receive an original picture as a souvenir of the war and as a small token of Belgian appreciation of British kindness. These tickets may be resold by the buyer. Tickets will also be sold by the principal booksellers, at the *librairies françaises* and theatre ticket offices, and at the exhibition office. A certain number of pictures will be for sale, other pictures will be disposed of in the following manner: they will be distributed free amongst the visitors at the close of the exhibition in the proportion of one picture per thousand tickets sold.

The pictures will be on view at the McLean Gallery, Haymarket (next Haymarket Theatre), which has been placed at the disposal of the Belgian Artists' Mission by the kindness of Mr. Cremetti. The opening has been fixed for Friday, November 27, at 3 P.M.

EDINBURGH ARCHITECTURAL ASSOCIATION.

THE opening lecture was duly arranged, and was to have taken place on Wednesday, November 25, but owing to the illness of Mr. L. March Phillipps, Henley-on-Thames, who had promised to lecture on "Rheims: Its Place in Life and Art," the Committee have had regretfully to cancel this meeting.

Owing to the national crisis there has been great difficulty in securing lecturers for the ensuing season. A provisional syllabus, however, will be issued shortly, and it is hoped that members will appreciate the difficult circumstances in which the Committee have been placed, and give their hearty support, so far as circumstances permit, to all meetings that may be arranged.

Owing to the fact that the majority of the members are now on military duty, the Associate Section have had no alternative but to suspend their syllabus for next session. The Committee appeal to all Associates not serving their country, or occupied in military training, to support the senior body during this session.

THE R.I.B.A. Council, acting on the recommendation of the Finance and House Committee, have resolved that subscriptions due in January 1915 be remitted in the case of all Members and Licentiates who are at that time actively engaged in the defence of the country, and that the publications of the Institute be sent to their home addresses during the period of their service.

THE Northern Architectural Association have decided, though the present unprecedented conditions will necessitate some modification in the arrangements for the winter session, to hold meetings as circumstances will permit. The opening meeting took place on the evening of the 25th inst., when the President delivered his inaugural address, his subject being "War and Architecture."

At Coventry County Court on Tuesday, the 24th inst., before Judge Cann, D. R. Parry-Jones, architect, Coventry, was sued by Samuel Williams, plasterer, for £42, damages for breach of contract with respect to the erection of six houses. Plaintiff's case was that Mr. Parry-Jones entered into a contract with him for the plastering of these houses. Mr. Parry-Jones learned that plaintiff was a non-union man, and consequently told him not to start on the work until he got a permit from the Plasterers' Union. This plaintiff was unable to obtain, and he afterwards ascertained that the plastering had passed into other hands. The defence was that plaintiff had been notified that if he brought non-union men on to the buildings the carpenters and bricklayers, who were trade unionists, would cease work. Plaintiff had expressed his regret at the situation, and defendant consequently considered that the matter was ended. His Honour held that the circumstances did not release the defendant from responsibility under the contract, and gave judgment for the plaintiffs for £20 and costs.

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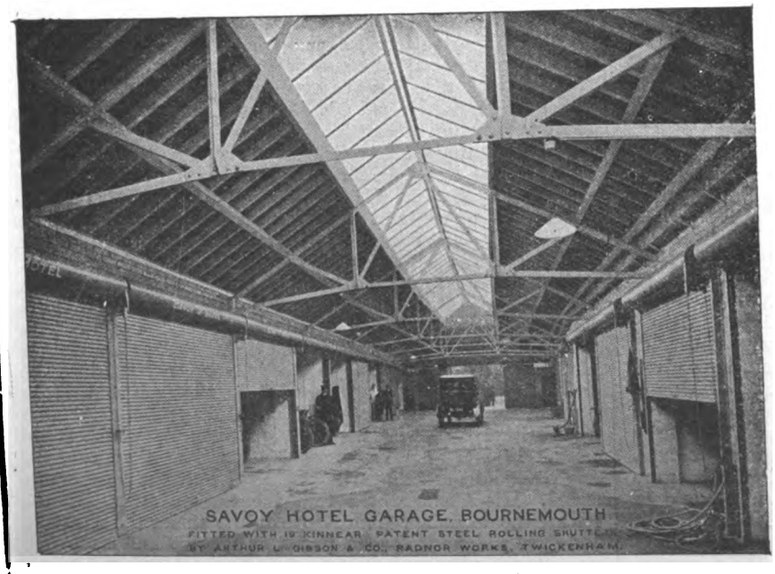
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BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BEDFORDSHIRE.

Luton.—Secondary school.

Sundon.—Eight cottages, for Luton R.D.C. Mr. H. Pickering, architect, 18 Princes Street, Dunstable. Messrs. Wood & Sons (of Dunstable), contractors (£1,175)

BUCKINGHAMSHIRE.

Amersham.—Children's homes, for the B.G. Messrs. Darvill & East, architects (of Chesham).

Workhouse: alterations.

Aylesbury.—Fifty-one workmen's dwellings, Oxford Road.

Bradwell.—Council school: alterations.

CHESHIRE.

Nantwich.—Dairy Institute and Hostel for thirty-two students. County architect.

CORNWALL.

Launceston.—Six working-class houses.

DERBYSHIRE.

Derby.—Glass factory, off Mansfield Road.

Long Eaton.—Council schools, Nottingham Road.

Matlock.—Banking premises, for the London City and Midland Banking Company, Ltd.

DEVON.

Bideford.—Cottage homes, for the B.G. Mr. B. W. Oliver, A.R.I.B.A., architect, Bridge End, Barnstaple.

Torquay.—House, Audley Park. Mr. F. G. Moore, architect, 9-10 Fleet Street. Messrs. R. F. Yeo & Sons, contractors, Rock Road (£950).

DURHAM.

Chester-le-Street.—Cottage homes, for the B.G. Mr. C. Groves, contractor, Poplar Street (£3,215).

Durham.—Workhouse: laundry extension (£1,350) and infirmary. Messrs. W. & T. H. Milburn, FF.R.I.B.A., architects, 19 Fawcett Street, Sunderland.

Ryhope.—Eighty-three working-class dwellings, Burdon Lane (£18,300).

Washington.—Council school, Spout Lane.

ESSEX.

Chelmsford.—Slipper baths, Waterloo Road. Public Elementary School, South Primrose Hill. Borough Engineer.

GLOUCESTERSHIRE.

Bristol.—Infectious diseases hospital, Novers Hill: extension.

Gloucester.—Bakery: alterations, for the Gloucester Co-operative and Industrial Society. Mr. E. A. Pryer, architect, 18 Clarence Street. Mr. J. Simmonds, contractor, Conduit Street (£780).

HAMPSHIRE.

Fareham.—Price's School: extension.

HERTFORDSHIRE.

Barnet.—Infirmary. Messrs. Williams & Cox, R.I.B.A., architects, 34 Henrietta Street, Covent Garden, London.

Hertford.—Offices for the Clerk of the Peace (£4,000). Mr. M. A. Smith (of Hatfield), architect.

KENT.

Barming.—Asylum: house for Senior Assistant M.O. Mr. Ernest Newton, A.R.A., P.R.I.B.A., architect, 4 Raymond's Buildings, Gray's Inn, London.

Dartford.—Electricity Works: extension. Mr. Collins, contractor.

LANCASHIRE.

Accrington.—Council mixed school, Moor End (for 506 places).

Public elementary school, Bent Street, Oswaldtwistle.

Droylsden.—St. Andrew's Church, Edge Lane.

Liverpool.—Proposed workmen's dwellings, Rathbone Street area.

Manchester.—Mission Hall, New Park Road, Salford. Messrs. A. Brocklehurst & Co., architects, 30 Brown Street.

Rishton.—Public elementary school, for 300 places.

Rochdale.—Workhouse: additions to infirmary and mortuary. Mr. H. H. Clough, architect, Butts Avenue.

Southport.—Technical school. Mr. J. Miller, architect, Victoria Street, London, S.W.

LEICESTERSHIRE.

Markfield.—Proposed Council school, Shaw Lane.

MIDDLESEX.

Eastcote.—Proposed elementary school for 300 places.

Yiewsley.—Factory, Horton Road, for Messrs. Thomas & Thomas.

NORTHAMPTONSHIRE.

Peterborough.—Nurses' Home, for the B.G. (£660). Messrs. J. G. Stallebrass & Sons, architects, 26 North Street.

NORTHUMBERLAND.

Newcastle-upon-Tyne.—Grammar school: rifle range (£1,000). Mr. W. H. Knowles, F.R.I.B.A., architect, 25 Collingwood Street.

SHROPSHIRE.

Ludlow.—Cottage homes, for the B.G.

Twenty-one working-class dwellings, Holdgate Fee (£3,780).

Maesbury.—Proposed Council school.

Wellington.—Two houses, Mansell Road, for Mr. Steventon.

SOMERSET.

Chard.—Houses, Mill Lane, for the Industrial and Provident Society.

Three Council houses, Old Town. Borough surveyor.

STAFFORDSHIRE.

Lichfield.—Children's Homes: enlargement, for B.G.

SUFFOLK.

Lowestoft.—Factory (for 800 hands), Waveney Drive, for Messrs. Maconochie Bros. Mr. W. J. Roberts (architect (£30,000 to £40,000).

SURREY.

Dorking.—Proposed working-class cottages.

Normandy.—The "Anchor" inn: re-building.

Surbiton.—Cemetery: chapel, lodge, &c. (£2,150).

SUSSEX.

Bognor.—Nos. 35 to 37 High Street: re-building. Mr. H. P. Tufnail, architect, 48 High Street.

Four workmen's houses, Upper Linden Avenue (£1,000). Council surveyor.

Littlehampton.—Isolation hospital, Toddington (£3,000).

Withyham.—Public elementary school for 240 places.

WARWICKSHIRE.

Longford.—Two houses, Grange Road, for Mr. Goode.

WORCESTERSHIRE.

Malvern.—Council school.

YORKSHIRE.

Bridlington.—"Manchester" Hotel: additions. Mr. J. R. Earnshaw, architect, Carlton House, Wellington Road.

Carcroft.—Church school. Mr. T. B. Thompson, architect, 15 Parliament Street, Hull.

Driffield.—Isolation hospital. Mr. B. B. Stamford, architect, County Hall, Beverley.

Fulthorn.—Congregational school. Mr. J. C. Petch, architect, Bar Chambers, Westborough, Scarborough.

Guisborough.—Workhouse: alterations. Messrs. Taylor & Minor, A.R.I.B.A., architects, Post Office Chambers, Northgate, Darlington.

Halifax.—P.M. Church, Pellon Lane.

Ossett.—Council school, Gawthorpe, for 500 places.

Wakefield.—Working-class dwellings, Agbrigg (£13,200).

York.—Weights and Measures Offices, Lower Friargate. Messrs. Birch & Sons, Ltd., contractors (£2,520).

WALES.

Cwmaman.—St. Joseph's Church: extensions. Mr. J. T. Jenkin, architect, Fairfield House, Porth.

Port Talbot.—Congregational Church, Sandfields Road, Aberavon (£1,600).

SCOTLAND.

Broughty Ferry.—Dairy, Holly Road: alterations, for Mr. G. J. Bisset.

Carluke.—Roadmeetings Hospital: pavilion for twenty-four beds, &c.

Dundee.—Cottage, Strathmartine Road, for Mr. A. J. Robertson, jun.

Property, Hospital Wynd: additions and alterations, for Mr. J. H. Davie.

Public school, Bellfield Street. Messrs. McLaren, Sons & Soutar, architects, 10 Reform Street (£19,800); also

Cottage, Frederick Street.

Dunfermline.—Offices, for the Carnegie Trust, Viewfield House Estate.

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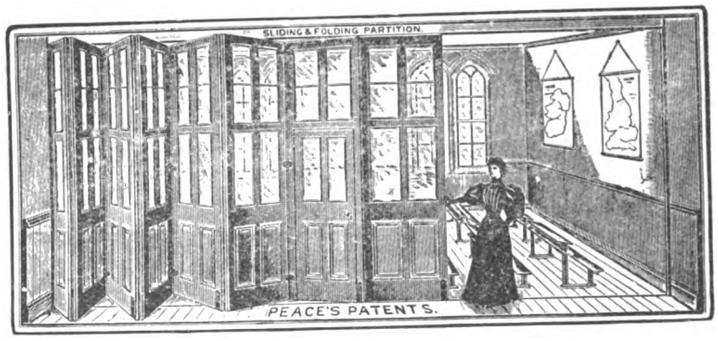
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SCOTLAND—*continued.*

Edinburgh.—No. 1 Milne's Court, Lawnmarket: re-construction, for the Corporation.

Laundry, Gorgie, for St. Cuthbert's Co-operative Association, Ltd.

Glasgow.—Three cottages, Ardgoil Estate (£1,500), for the Corporation.

Golf Clubhouse, Bellahouston, Cardonald, for the Corporation.

Kilpatrick.—Elementary school, for the Old Kilpatrick School Board.

Leith.—Hall, Henderson and St. Andrew Streets, for the Hope Trustees.

Leven.—The "White" Memorial Baptist Church, Hall, &c. (£2,000). Mr. A. C. Dewar, architect, Mitchell Street.

IRELAND.

Armagh.—Labourers' cottages (£1,100).

Ashford (Co. Wicklow).—Church. Mr. P. J. Munden, architect, 5 Trinity Street, Dublin; also

Dublin.—Cinematograph Theatre, South Richmond Street and Gordon Place.

Newport (Co. Mayo).—Church. Messrs. Doolin & Butler, F.R.I.B.A., architects, 23 Kildare Street, Dublin.

PATENT SPECIFICATIONS PUBLISHED NOVEMBER 19, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 19,971. Sept. 4, 1913.—Simplex Conduits, Ltd., and L. M. Waterhouse, Garrison Lane, Birmingham. Electric radiators.

23,971. Oct. 23, 1913.—J. E. Anger, 186 Strand Road, Preston. Door runners or hangers.

24,284. April 25, 1914.—M. H. Adams, Birch Heath, Whitefield, Lancs. Apparatus for obtaining filtered water from rivers and the like.

24,730. Oct. 30, 1913.—J. G. Galley, 49 West Street, Leytonstone. Fanlight or other hinged windows.

25,056. Nov. 3, 1913.—J. O. Boving, 9½ Union Court, E.C., and Wetcarbonizing Ltd., 3 Dean Farrar's Street, Westminster, S.W. Treatment of sewage.

26,796. Nov. 21, 1913.—Arthur Crane, "Northolme," North Road, Caledonian Road, N., and the London General Omnibus Co., Ltd., Electric Railway House, Broadway, Westminster, S.W. Sliding windows and panels.

27,131. Nov. 25, 1913.—Joseph Stretch, 30 Francis Street, Chapeltown Road, Leeds. Means and method for the construction of reinforced-concrete buildings.

28,896. Dec. 15, 1913. Walter Barnett, Bilton Hall, Rugby, and James Florendine, 16 Bridget Street, New Bilton, Rugby. Road-sweeping machines.

28,953. Dec. 16, 1913.—Arthur Roberts, 27 Leyfield Road, West Derby, Liverpool. Apparatus for operating side lights, ventilators, or the like of greenhouses or other buildings or erections.

1,107. Jan. 15, 1914.—John Shanks, Tubal Works, Barrhead, Renfrewshire. Waste and overflow fittings for baths, lavatories, sinks, and the like.

1,660. Jan. 21, 1914.—Chas. Pickard, 2 Breamore Road, South Park, Ilford. Ferro-concrete roof gutter.

5,551. March 4, 1914.—Samuel Hayes, 37 Jocelyn Road, Richmond, Surrey. Machines for moulding from cement and other plastic materials artificial slates, tiles, sheets, slabs or the like, for roofing and other purposes.

7,210. March 21, 1914.—G. B. Waite, 31st Street and East River, New York, U.S.A. Reinforced-concrete buildings.

7,797. March 27, 1914.—H. V. R. Read, R. H. Campbell, and Aërators, Ltd., Angel Road, Edmonton. Fire-extinguishing appliances.

16,730. July 14, 1914.—F. W. Mellowes and Herbert Foulston, Eclipse Works, Corporation Street, Sheffield. Roof glazing.

15,309. June 26, 1914.—The British Reinforced Concrete Engineering Co., Ltd., 82 Victoria Street, S.W., and A. G. Bullivant, 6 Lindsay Road, Levenshulme, Manchester. Cotter for fixing shear or bonding members or the like to the rods or boards of reinforced concrete constructions.

19,915. Oct. 11, 1913.—Walter Jones, J.P., and Jones & Attwood, Ltd., Titan Works, Amblecote, Stourbridge. Apparatus for the purification of sewage and analogous liquids.

29,364. Dec. 20, 1913.—Pilkington's Tile and Pottery Co., Ltd., David Burton, and Edmund Makin, Clifton Junction, Manchester. Means for fixing tiles to concrete, cement, or similar substances.

26,660. Nov. 20, 1912.—R. F. Carey, 6A The Broadway, Leigh-on-Sea, and R. Waygood & Co., Ltd., Falmouth Road, Great Dover Street, S.E. Vacuum cleaning apparatus.

23,626. Oct. 18, 1913.—F. A. Fleming, 9 Ravensworth Crescent, Low Fell, Gateshead-on-Tyne. Winches for operating the rope of a duplex derrick.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

South London Improvements.

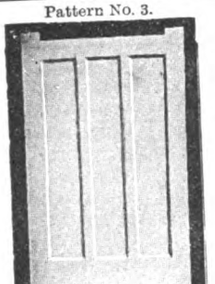
SIR,—South London improvements have always been a popular subject for discussion among Londoners since June 1857. At that time the then Metropolitan Board of Works issued invitations to architects and civil engineers for plans and diagrams showing the best means of constructing subways under streets in which to place sewers, drains, gas and water pipes, &c., for Southwark Street, then about to be constructed. In answer to this invitation many designs were submitted, and the first prize of £100 was given to a young engineer (Mr. Davey), aged about twenty-one years. His ideas, however, were placed in the hands of Sir Joseph Bazalgette to execute beneath Southwark Street. Sir Joseph also executed the Victoria Embankment and the Albert Embankment, on both sides of the River Thames. The Chelsea Embankment was also executed. In consequence of these improvements the Thames continued to overflow its banks from Upper Ground Street, Blackfriars, to Bankside, Southwark, through the compressed state of the river. So much did this occur that this part of South London was frequently more than 3 feet under water, and even the basements of some of the new warehouses in Southwark Street were filled with mud, slush, water, and drainage. This occasioned that splendid cartoon to appear in *Punch* at that time, representing old Father Thames out of his bed, and a female figure (the City of London) saying to him, "What, you silly old idiot! Out of your bed again! Do you want to drown us all?" Father Thames replies, "'Taint my fault: it ought to be somebody's work to see me tucked up on both sides." It is true that Bankside and other parts where breaches had occurred were patched up, but as the former Metropolitan Board of Works was soon afterwards dissolved, nothing further has been done in this matter. The writer of this notice was at that time one of those who submitted a plan for the subways advertised for. The idea on this plan was not to excavate for these subways, but to raise the level of the ground. A copy of this plan and report was sent to the Right Hon. Lord John Manners, then Chief Commissioner of Works, and kindly acknowledged by him, but the design was considered far too costly and Utopian. Too many new streets were suggested, and the proposed "Royal Stream," a widening of the Grand Surrey Canal and continuing it from Albany Road to Battersea, to provide material for raising level of the ground, was then considered too visionary. Some of the suggestions were, however, afterwards carried out, such as the parks at Battersea, Southwark, and Deptford (Sayes Court). Now it is found that more streets are wanted in South London running east and west, as suggested last week by Mr. Paul Waterhouse in his admirable paper read before the R.I.B.A., and well discussed at the meeting thereon by many well qualified to speak on the subject, as reported in the current number of *The Architect*.—Yours &c.,

W. F. P.

[Our correspondent's drawing is not quite suitable for reproduction. The main idea of the plan is the "Royal Stream," a straight cut between the Thames at Nine Elms and Greenwich. On this as a base the Surrey side is laid out on the American gridiron system of town planning, with a royal palace and domain, Lambeth and Southwark Parks on the banks of the "Royal Stream."—ED.]

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THE ARCHITECT

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FORTHCOMING EVENTS.

Friday, December 4.

Historical Association (London Branch): Paper entitled "Mediæval London," by Mr. C. L. Kingsford, at 8 P.M.

Monday, December 7.

Architectural Association: Paper entitled "Rheims Cathedral," by Mr. Aymer Vallance, M.A., F.S.A., at 8 P.M.

Surveyors' Institution: Papers entitled "The Report of the Land Enquiry Committee on the Acquisition of Land," by Mr. A. Young and Mr. L. O. Mathews, at 8 P.M.

Wednesday, December 9.

Manchester Society of Architects: Paper entitled "Old Cheshire," by Mr. A. W. Hennings, A.R.I.B.A., at 6.30 P.M.

Thursday, December 10.

Society of Architects: Discussion on "A Model Form of General Conditions of Contract," to be opened by Mr. E. C. P. Monson, F.R.I.B.A., President, at 7.30 P.M.

GARDEN CITIES AND CANALS.

So far is it from being the fact that water transport is rightly beyond the sphere of town-planning that, although it may be unfortunately true, as stated by Mr. Paul Waterhouse, that our modern town-planners "think nothing . . . of water transport," the resuscitation of our canals and the organisation of our inland waterways is very vitally connected with the extension of the garden-city movement, as is well brought out by Mr. J. S. Nettlefold in his recently issued little book * on the subject.

It must be remembered that we are now considering garden cities, properly so called, and not garden suburbs; completely organised communities of the status of a town rather than a village, distinct entities rather than adjuncts or extensions of an older settlement already established on the more or less fortuitous lines on which our towns and cities have, for the most part, "growed," like Topsy, rather than been laid down or planned with precision.

Our first garden city, Letchworth, illustrates the requirements of such a completely organised community. These are (1) a properly co-ordinated arrangement of the residential, industrial, business and pleasure areas; (2) a dignified and convenient arrangement of the public buildings and public services; (3) a factory area; (4) decent housing at reasonable rents for all classes of the community; (5) a sufficiency of open spaces; (6) an agricultural belt close to the consumer; (7) quick and cheap means of communication between the various parts of the town.

Now it will be observed that of these requirements the one which is to bring grist to the mill, and enable the community to do something more than merely to live on each other, is the factory area. An entirely self-contained community must be content with a very low standard of living if it is to be fed, clothed, and housed exclusively from its own resources, unless these are exceptionally rich and exceptionally easily worked and developed. Hence the flourishing community must be able to bring in some of the things that it wants from the outside, and in exchange must be able to send out those things of which it has a superabundance. The bringing in and the sending out of commodities is the business in part of the factory area. Raw material must be brought in and finished products must be sent out. This cannot be done without transport, and the provision of transport must be the consideration of every town-planner who intends to organise, rather than merely to draw a pattern on paper, any such conception as a new garden city.

If the new garden city is to have the best chance of prosperity, the transport facilities at its command must not only be ample and convenient, but they must be so cheap as to put the new town on at least as favourable terms for commerce as its competitors. Now it is notorious that in England existing freights by railway are far too high to enable many of the heavier and more bulky trades to compete successfully with foreign rivals. The report of the Royal Commission on Canals and Inland Navigation, 1909, thus deals with this matter:—

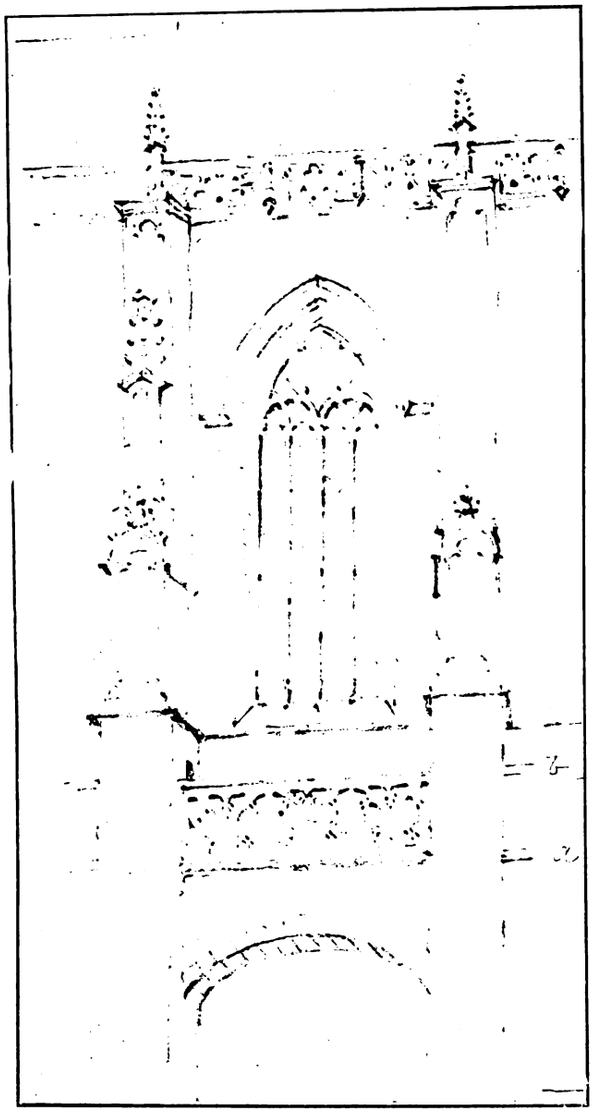
"A small difference in rates to and from inland manufacturing centres is now of more importance to these districts than it was in former times. They are in danger of being undersold by competitors on the coast, and even by manufacturers on the banks of the Rhine and Scheldt, who may be able to obtain their raw materials at cheaper prices and to export their manufactured articles even to London at lower rates than those possible, as means of transport now stand, for English manufacturers whose works are situated seventy or eighty miles from the nearest port.

"Manufacturers who are near to Cardiff or to the Manchester Ship Canal have local supplies of coal as close at hand as those in the Birmingham district; they can import raw material from abroad as cheaply as possible, and can export, at the lowest possible transit rates, their products. They should hold their own against German and Belgian manufacturers, who, by means of their system of large canals, can embark their goods for export at Antwerp almost as cheaply as if their works were in that city. But English Midland manufacturers are at a great disadvantage. Goods are carried more cheaply from Cologne, Frankfort, or Mannheim to London than from Birmingham to London. German manufacturers can send chemicals to Hamburg, 210 miles from the interior of Germany, for between 7*s.* and 8*s.* per ton, whereas the lowest rate for the same article from the English Midlands to London is 20*s.* per ton. The foreign or colonial consumer can therefore buy 12*s.* to 13*s.* per ton cheaper in Hamburg than in London, which is more than enough to divert the trade from England to Germany."

There is already a tendency on the part of English manufacturers who are in competition with Continental rivals to endeavour to meet the advantage the latter possess in their canals by transferring their works to the neighbourhood of seaports. But the number of good seaports in Britain is limited, in spite of our greatly superior coast line, and scarcely any of them can be kept in good working order without expensive dredging

* *Garden Cities and Canals.* By J. S. Nettlefold, author of "Practical Housing," Chairman of Harborne Tenants, Ltd. (London: The St. Catherine Press. 1*s.* net.)

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UPPER PART OF BAY OF NORTH TRANSEPT, CATHEDRAL OF ST. MARTIN, ALOST.
From a Sketch by Mr. Alfred H. Habt, F.R.I.B.A.

operations continuously maintained. Our good seaports are likely, therefore, to become congested centres of manufacturing industry, and all the advantages to the community of healthy housing to be minimised if not entirely lost.

The garden-city planner, or perhaps we had better say organiser, must give consideration to cheap water transport, and hence the provision of an adequate canal system is of vital importance to the extension of garden cities. Undoubtedly we possess in England a very fine railway system, and the distances from the Midlands to the seaports are far less than for Continental manufacturers; but the fact remains that the latter can transport for long distances more cheaply than we can over short distances. Railway transport may have the advantage of speed, but for a very large proportion of both raw material and manufactured articles speed is not of vital importance. Suppose, for example, it took a ton of goods six days to transport by water as against two days by rail. The difference would mean no more, in most cases, than the interest for four days on the capital value of the ton of goods. Where speed of delivery is important the railway would still be at command, and would score.

Opposition to canal transport has been the settled policy of railway companies. They have bought up many waterways and allowed them to become derelict or abolished them, as in the case of the canal from Gravesend on the Thames to Strood on the Medway. It is not, however, clear that the railway companies are right in their opposition, even from the point of view of their own interests. They would still have the advantage of the best-paying traffic in goods, and by an extension of garden cities would largely increase their passenger traffic. At present the presumptive advantage of speed in railway transport is largely nullified by the congestion which we may see manifested on any of the great lines in the form of lengthy trains loaded with goods lying idle on sidings, resulting in loss of interest not only on the goods, but on the rolling stock and the capital value of the land occupied by sidings. If the railways were relieved of the bulky, low-paying goods that now make for congestion, the companies could handle more profitably the better-paying traffic for which speed superior to that of water transport is a consideration.

An an initiatory scheme the Royal Commission on Canals and Inland Navigation suggested what is known as the Cross or Four River Scheme, comprising routes (*a*) Birmingham and Leicester to London; (*b*) Leicester, Burton, and Nottingham to the Humber; (*c*) Wolverhampton and Birmingham to the Mersey; (*d*) Wolverhampton and Birmingham to the Severn. The completion of such a scheme would not only place the Midlands in waterway communication with four of our chief seaports—London, Liverpool, Hull, and Bristol—but would open up opportunities for many new garden cities happily situated for all the "amenities" as well as provided with the necessary cheap transport to encourage the extension of manufacturing industries in order to not only capture during the war, but to retain during the coming peace, a large proportion of German and Austrian trade. The Cross scheme would, we should hope, be soon supplemented by extensions and feeders to cover the whole of Great Britain.

Garden cities and water transport should be indissolubly connected in the thoughts of all modern town-planners who view their subject as something more serious than the concocting of pretty town patterns on paper, and as an aid to such reality should make a careful study of Mr. Nettlefold's book on "Garden Cities and Canals."

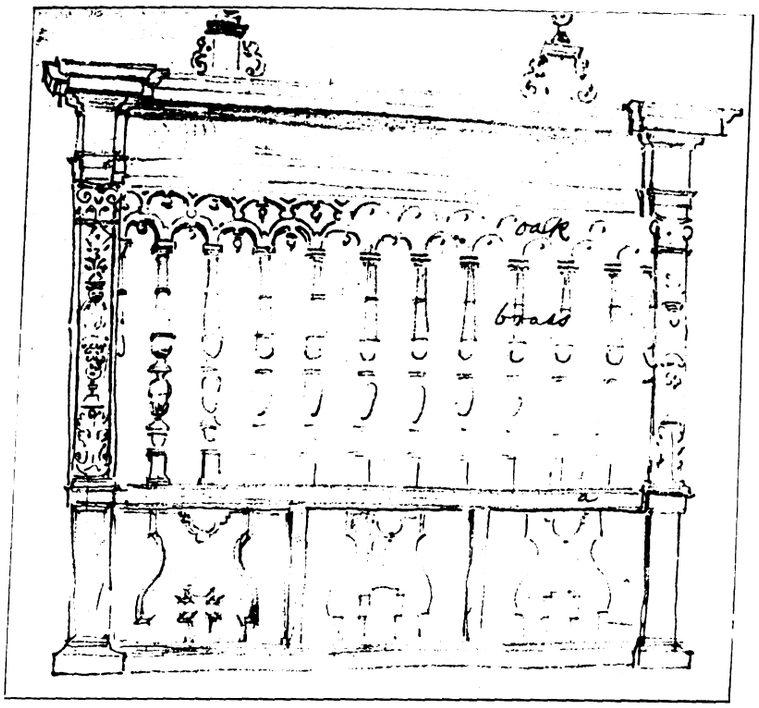
NOTES AND COMMENTS.

The first essential for any town-planning scheme is a plan or map of the area to be dealt with. London has grown up haphazard because our forefathers did not foresee or provide for its future development. Even when the opportunity presented by the Great Fire was seized by Sir Christopher Wren to lay out a plan which even to-day is so far admirable that it would be almost worth while to carry it into execution, vested interests and short-sighted pusillanimity consigned it to oblivion. London to-day needs, and badly needs, replanning—not only on the Surrey Side but also on the left bank of the Thames, not only in "the square mile," but including Greater London. To-day a greater calamity than the Fire arrests our ordinary course and current of life, and the London Society are wisely seizing the opportunity.

The object the London Society has in hand, during this time of war and enforced leisure for many who are unable to take part in the struggle, is the preparation of a much needed development plan upon which future improvements for Greater London may be based. Incidentally it is hoped the preparation of this plan may give employment to a certain number of professional gentlemen who have had their ordinary work entirely stopped or cruelly interfered with by the war, and who would work under the direction of a strong committee of experts appointed by the Society for the purpose prepared to give their time and experience to the work.

It is proposed to work in close co-operation with the Architects' Benevolent Society, the Artists' General Benevolent Institution, the Special War Committee of

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OAK SCREEN WITH BRASS BALUSTERS—DATE 1671. DIEST CHURCH, BELGIUM.
From a Sketch by Mr. ALFRED H. HART, F.R.I.B.A.

the Royal Institute of British Architects, and the Special War Committee of the Surveyors' Institution, to all of whom full details of the proposals have been sent. Steps have also been taken to get into touch with the National Relief Fund and other kindred bodies.

In the brilliant and eventful history of France the period of the Revolution is perhaps the last where one could expect to find an example that could be followed by London to-day. Yet it is so. Amid all that atmosphere of blood and terror, the nation of ideas preserved faith with itself and mapped out a beautiful city. The labours of the Commission of Artists which the First Republic appointed in 1793 rank to this day among the most remarkable pieces of town-planning in existence. Fifty years later Napoleon III. and Baron de Haussmann were guided by the plan of the Revolutionary Artists as the first Napoleon had been before them. The effect is seen on Paris as we know it. To that Artists' Commission of 1793 belongs the conception of the Rue de Rivoli, the connection of the Place Vendôme to the Rue de Rivoli by the Rue Castiglioni, and to the Boulevard des Capucines by the Rue de la Paix, and a host of other things.

All must feel that the best is not being done with London. It has grown up haphazard; in spite of many efforts, its development is still haphazard. Until there is one great uniformly executed plan to refer to, the eighty and more local authorities who control our monster community of seven and a-half million people in 700 square miles will go on each making its own changes without any sort of relation to the whole. In the London Society the nucleus of an organisation to head this movement for a plan already exists. Now is the time to utilise the best brains upon this work of national importance. The professional men of London could be employed upon it. Many are badly hit by the war, though their condition is far from resembling that of the German artists and sculptors whose immediate wants have to be looked after by a committee of Berlin aristocrats.

This scheme would utilise the energies of London artists, architects, and surveyors in a manner that would provide work for them and at the same time be of the highest permanent value. Let no one be under the delusion that the plan would not pay London, and, through it, the nation. London could become the great example of the economic value and use which skilful town-planning extracts out of every yard of a city, and of the way in which it can be worked into an effect of civic beauty. Paris has recouped herself many times over for her enormous outlay. Well-conceived schemes would repay London equally well. To do the best with London before it is too late, the plan which we advocate is urgently and prudently essential. It would become the inspiration for the future growth of London, as the proposals of the artists of Revolutionary France became the inspiration for the growth of that Paris which is the delight of the whole world to-day.

The Council of the London Society intend to put into execution the project outlined above. What the French artists of the Revolution did for Paris in the French manner, the London Society intends that the English artists shall have an opportunity to do for London in the English manner.

There is much work of a varied character that requires to be done. The plan of London needs studying as a whole. There are numerous town-planning schemes being prepared for isolated bits of London. There are numerous schemes of local improvement which have been suggested from time to time. There is a great scheme of arterial roads which is being studied by six divisional conferences of local authorities and others. There is constant demand, first from one district and then from another, to save some piece of ground for open spaces; to preserve a view-point, or provide a new park. There is a great need for more playing fields and recreation grounds, a need the urgency of which is emphasised by the physical unfitness of many thousands of London youths who might otherwise now be taking up arms in defence of their country's honour.

All these schemes, proposals, and demands are of the utmost importance and value; but it is still more important that they should all be brought together on to one great plan so that the requirements of London may be studied comprehensively, so that the reaction of one proposal upon another may be realised, so that congestion at one point may not be relieved at the expense of worse congestion at another, so that open spaces may not be denied to a district where they are most urgently needed in order that the demands of a more clamorous district may be satisfied.

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Some hundreds of delegates are trying to study a system of main roads leading out of London, but there is no map upon which they can see the conditions of London as a whole, there is no map upon which the contours are coloured to show the hills and valleys, on which the relation between the main roads and the existing and desirable open spaces can be studied; on which, in short, all the existing information can be brought together, and all the valuable suggestions that have from time to time been made by different individuals or bodies can be set down and considered in their relation one to another.

This is the work upon which the London Society wish to focus the work of a number of professional men, confident that the very focussing of skilled minds looking at the problem from different points of view will lead to many valuable new suggestions for modifying and co-ordinating the various proposals which from time to time have been made. Before long the district conferences which are considering the main roads of each district will be reporting. This will be the time to bring together the results of their labours, and to consider them in relation to all the other matters referred to above; and not least important will it be to study the effect on the central area of London which would follow the making of this system of main highways in the outer area.

The Open Spaces Committee of the London Society have already prepared a plan showing most of the existing open spaces. This needs completing and has been waiting for just such an opportunity as the present to secure the help of professional men who could not ordinarily spare time for the work. It needs especially the possibilities for future open spaces indicated upon it. This map is in sixteen sections, each of which can be taken, worked up, and perfected by someone thoroughly knowing the district.

It is not suggested that this plan, when made, would be final or conclusive; but it would at least form a most valuable basis of solid information and suggestion, for the first time completely brought together and graphically represented, something which could be worked upon, criticised, and improved. It is not too much to hope that such a body of willing workers, inspired by a desire to do some public service to London, would evolve new imaginative suggestions for schemes of improvement which would not only be of the utmost economic and commercial value to London, but might form a fitting memorial of the great time of strain and effort through which the country is now passing.

One of the most useful lessons that the war may teach us, if we only are ready to learn, is the power of the British nation and the value of its credit. The Government, with a stroke of the pen, has cornered the sugar market. It has steadied the whole of the food markets of the nation. It has nationalised the railways. The credit of the nation is good enough to raise 350 millions within a few days. The lesson we may learn is that if London requires replanning—and it can be shown that the replanning will pay—the credit of the country is good enough to find the capital. If it is desirable to cover the country with a network of inland waterways and to found many garden cities on their banks, the credit of the country is good enough to find the capital. It is difficult to conceive any possible national improvement, which will pay 4 per cent. or more on its outlay, which cannot be financed by the credit of Great Britain.

By the demolition of the Elizabethan houses in Cloth Fair we have increased the volume of vanishing London; but our loss has not been without some gain, for the removal of the easternmost of these houses, which abutted against the Church of St. Bartholomew the Great, West Smithfield, has disclosed the exterior of a bay of the nave which has not been seen for over 300 years, and this reveals in marked character the junction of the thirteenth-century nave with the twelfth-century conventual choir. The thirteenth-century builders pushed their work eastward on the clerestory level and on the ground level. Thus in the wall just uncovered can be seen, though terribly decayed, the Early English clerestory window of two lights. It has the earliest form of tracery, dating from about A.D. 1250. The late twelfth-century window was cut out for its insertion. The triforium twelfth-century arch is exposed, just as it appears on the inside of the church, as well as that of the ground arcade; but there can be seen very clearly the high arch of the vault of the thirteenth-century aisle, which, as stated, was pushed eastward. The vaulting of this later aisle being of a much greater height than that of the Norman period, it penetrated the floor of the triforium, and it was to hide this penetration that the triforium arches of the bay west of the crossing were filled in, as seen now from the interior of the church.

WAR ITEMS.

DESPITE Dr. von Bode's reported pronouncement that in no circumstances should pictures and other works of art in public museums, churches, &c., be regarded as war spoil, and so alienated from their recognised homes, many well-informed persons have been dubious as to whether official Germany would adhere to that very proper principle. In view of the wanton destruction of beautiful and historic buildings at Louvain, Termonde, Rheims, and elsewhere, none would be surprised were the War Lord to approve of "annexing," on this or that pretext, for the Kaiser Friedrich Museum in Berlin, of pictorial treasure from cities which for the time are under the control of the German Army.

In this connection it is stated that, having failed to obtain the huge indemnity demanded from the capital of Belgium, the Germans have removed from the Royal Museum at Brussels to Berlin at least two world-famed pictures. These are the outermost panels of the great Van Eyck polyptych by the Flemish masters, Hubert and Jan van Eyck, which was finished and placed in the church of St. John at Ghent as long ago as 1432. As students will recall, the other panels of the wings of this "Adoration of the Lamb" formed part of the fine collection of Flemish, Dutch, and Italian pictures brought together by Mr. Solly, a Londoner, bought by the King of Prussia about 1821 at £75,000, a collection which served as the nucleus of what now is the Kaiser Friedrich Museum. If, then, the "Adam" and "Eve" could be permanently retained—an eventuality on which happily we need not reckon—the German occupation of Brussels would, from the standpoint of the art connoisseur, have an enormously important issue. As to the four central panels, the authorities of St. Bavon, Ghent, distrustful of Berlinised culture, are said to have removed them many weeks ago to a place of safety.

The art of Hubert and Jan van Eyck—who were as morning stars in the firmament of the late Middle Ages—culminated in that marvel of breadth and exquisite minuteness, so solemn, so spiritually unlifting, the Ghent altar-piece. Of the awe-inspiring figure of the Almighty, enthroned in the central panel of the upper zone, Goethe wrote: "Here eyes do regard you from eternity's stillness." That is no exaggeration. Conceived and wrought with an intensity which endows every human and Nature form not with dignity and beauty only, but with profound significance, the polyptych, telling nobly from afar, is at close quarters an endless enchantment. In the central panel, beneath the figures of the Almighty and of Mary and St. John the Baptist, the Adoration of the Lamb, a triumph of mediæval craftsmanship, is depicted as a rapt and impressive union of inward and outward, expressed in spiritually exalted terms. Flower and leaf, the pebbles in the water, the groups of adoring figures, the spiry towns against the serene sky in the distance, these and every detail are rendered with the veracity of a master

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miniaturist, yet with the passionate insight and power of a creative seer. Around the Lamb are Apostles, Prophets, Priests, Rulers, Saints, and Martyrs, while on the wings, advancing from right to left in "solemn troops and sweet societies," are pilgrims, hermits, and chivalrous knights of the Cross. When the shutters of the altar-piece are closed, jewel-rich colour and magnificence of detail make way for the quietude of an Annunciation in a cloistral room, beneath which are portraits of Jodoc Vyt and his wife—at whose expense the altar-piece was finished—and grandly draped figures treated in grisaille of SS. John the Baptist and the Evangelist.

As Mr. W. H. J. Weale, the foremost authority on Early Flemish art, points out, probably no picture in the world has been so much discussed as this Ghent altar-piece. Until recently none questioned the tradition that Jodoc Vyt commissioned Hubert van Eyck to execute it for presentation to the church of St. John, now the Cathedral St. Bavon, Ghent. More probably, however, it was commissioned by William IV. of Bavaria, and finished in 1432, as the inscription on the frame records, by Jan van Eyck at the expense of Vyt, on the altar of whose chapel in the church at Ghent it was placed. During the Calvinistic disturbances of 1566, only two days before the iconoclasts broke into the church, the altar-piece was taken up into the tower, and later removed for safe keeping to the Townhouse. While there arrangements were in progress for its presentation to Queen Elizabeth, who had advanced money to the leaders of the Calvinist party; but the determined opposition of Jodoc Triest, lord of Lovendeghem, a collateral descendant of the donor, put a stop to the proposed transference; and in September 1587 the altar-piece was restored to its original position. For almost two centuries it so remained intact. When in 1781 Joseph II. visited the church the naked "Adam" and "Eve" seemed to have displeased him, and were removed. Thirteen years later the four central panels were taken to Paris by the French republicans, and on March 7, 1799, exhibited in the Central Museum of Art with other "annexed" masterpieces. Meanwhile the wings, having been hidden for a time, were stored in the Town-house, and though claimed by the Director of the Central Museum, Paris—who offered in exchange some paintings by Rubens—were not ceded, thanks to the firm resolve of the Bishop of Ghent. Despite strenuous resistance many works of art were brought back to Belgium after the battle of Waterloo, and on May 10, 1816, the four central panels of the Van Eyck polyptych were replaced over the altar.

Unfortunately, however, the wings, which at that time were actively disapproved, remained in the Town-house. During the absence of the Bishop of Ghent in December 1817 these wings—excepting the outermost two of Adam and Eve—were by the Vicar-General and churchwardens sold to the dealer L. J. Nieuwenhuys for the paltry sum of 3,000 florins (about 252*l.*), he in turn passing them on to an English collector, Mr. Solly, then at Aix-la-Chapelle, for 100,000 francs (4,000*l.*). Finally, in 1821 the Solly collection was acquired by William III. of Prussia for about 75,000*l.*, the six Van Eyck panels being then valued at 400,000 francs. These six panels, split so that both sides can be exhibited, form one of the most precious possessions of the Kaiser Friedrich Museum. As to the masterly figures of Adam and Eve—with on the exterior the central part of the cloistral chamber, to right and left of which are the Virgin and the Angel of the Annunciation—they remained from 1781 till 1860 hidden away in a cupboard at Ghent, because, forsooth, the figures are undraped. In 1860 the panels, which in their kind have never been excelled—nor are likely to be—were bought by the Belgian Government for the Royal Museum at Brussels. The terms of the purchase were that 50,000 francs should be given for the execution of stained-glass windows in St. Bavon, and that the copies of the entire wings of the altar-piece made by Michael Coxcie in 1557-9, in which the figures of Adam and Eve are draped, should be presented to the same church. Thus it comes about that only the four central panels familiar to visitors to Ghent are originals from the hands of the brothers Van Eyck, six panels of the wings being at Berlin, where, too, for the present appear also to be those completing the monumental, rich, and moving altar-piece. Furthermore, Berlin owns Michael Coxcie's copy of the great central panel showing the Adoration of the Lamb, as, too, that of the Eternal Father, while in the Munich Gallery are the Coxcie figures of Mary and St. John the Baptist. It may be recalled that some eight years ago an application was made to the Berlin authorities to lend for a projected Van Eyck exhibition in the Musée des Beaux Arts, Ghent, the six panels of the polyptych, which, having been dismembered since 1781, it was intended to reconstitute. To the disappointment of art students in various parts of the world, however, the loan was not granted.—*Glasgow Herald.*

COMPETITION NEWS.

BRADFORD.—The Corporation invite competitive designs for the re-planning of streets in the central area of the City of Bradford. Mr. Reginald Blomfield, R.A., will act as assessor. Particulars may be obtained on application, accompanied by a deposit of £1 1*s.* (which will be returned on receipt of a *bona-fide* design), to Mr. Frederick Stevens, Town Clerk.

DONCASTER.—The Town Council invite architects to submit designs before January 23 for the laying out of a site of about twenty acres at Carr House, Doncaster, and the erection of 102 workmen's dwellings on garden-city lines. Particulars may be obtained from the Town Clerk, Mr. R. A. H. Tovey.

GLASGOW.—A meeting of the Executive Committee in connection with the Glasgow memorial to Thomas Carlyle was held in Glasgow last week. Fifteen designs had been submitted by twelve competitors. They were fortunate in having among them one design that was worthy of Carlyle and worthy of Glasgow. The report of the Committee stated that they were unanimous in selecting a water-colour design marked "J.," and it was agreed to accept it, subject to the specifications being within the compass of the funds at their disposal. The site suggested is 100 yards south-east of the Prince of Wales' Bridge, on the main road through Kelvingrove Park. The design chosen is of a block of rough-hewn granite, standing from 15 to 20 feet high, having a bust of Carlyle carved upon it.

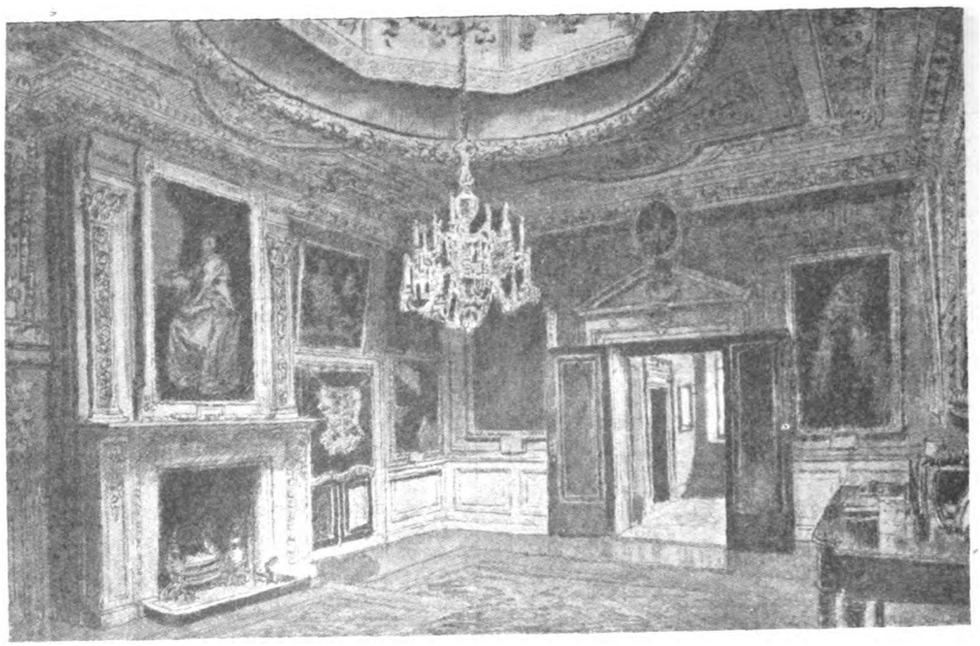
SIR LAURENCE GOMME, J.P., F.S.A., has been elected an Hon. Associate of the Royal Institute of British Architects.

MR. MATTHEW HENDERSON, who was the contractor for the Scottish National Exhibition in Glasgow and who was one of the best known members of the building trade in the West of Scotland, died on Monday last. Mr. Henderson, who was about eighty years of age, was the son of a Glendaruel farmer, but settled in Glasgow at an early age. He was a Justice of the Peace and a member of the Trades' House.

THE Edinburgh Town Council have been officially informed that the Gladstone Memorial Committee have now fixed upon a site for the memorial near the Royal Scottish Academy and National Galleries on the Mound—viz., at a point midway between the two buildings and on the east side of the plateau next East Princes Street Gardens. The committee ask sanction to the appropriation of this site instead of the site formerly sanctioned in St. Andrew Square. The memorial has been cast to the design of Mr. Pittendrigh Macgillivray, R.S.A.

THE London County Council's Asylums Committee have reported that in consequence of the war large timber of yellow deal, the use of which for roofing and other purposes is specified in the contract with Messrs. Leslie & Co. for the erection of the eleventh asylum, is unobtainable. They have therefore authorised the substitution of pitch pine, and have agreed to pay Messrs. Leslie & Co. the sum of £1,250, additional to the regular contract prices, to cover the extra cost of this substitution and any other advance in cost of materials which has resulted, or may result, from the outbreak of the present war. This extra is a charge against the capital estimate of £517,970 for the erection and equipment of the asylum.

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COURT ROOM OF THE WORSHIPFUL COMPANY OF BARBERS.

ILLUSTRATIONS.

CHEMICAL LABORATORY, UNIVERSITY OF OXFORD.

Of this building the part now in hand is the left wing and the centre block, the right wing being planned for future extension. The principal room is a large general laboratory, measuring 62 feet by 35 feet and 25 feet high. The ground floor is mainly occupied by laboratories for private research, and the lower annexe on the extreme left of the design contains a lecture theatre. The building is situated in South Parks Road in the neighbourhood of the other Science buildings. The fund for the building of the laboratory was generously increased by a large personal donation from Mr. C. W. Dyson Perrins. Carefully selected brownish-red bricks of mixed colour have been used for the exterior, the dressings being of Clipsham stone.

The contractors are Messrs. Armitage & Hodgson, of Leeds, and the clerk of works Mr. J. Rees.

Mr. Paul Waterhouse, M.A., F.R.I.B.A., is the architect of the building.

SKETCHES IN BELGIUM.

We this week present mementoes of two of the unfortunate towns in Belgium which have suffered severely during the war, Aerschot and Tirlemont. They are from sketches by Mr. Alfred H. Hart, F.R.I.B.A., Royal Academy Travelling Student.

STAIRCASE, 68 WATERGATE, CHESTER.

Although this staircase when drawn out appears to be somewhat uninteresting, it is really a most pleasing example of Georgian interior woodwork.

It is executed in oak, and is in a splendid state of preservation. Even the treads, which usually are very much worn, are in excellent condition, a good illustration of the reliability of oak.

The balusters are skilfully wrought, the twists being very proportionate, though the newel is rather disappointing in design; but, of course, it does not call for anything flamboyant in this respect, because of its somewhat obscure position.

The usual feature in an Elizabethan or Jacobean staircase was the newel, which rose stalwart and massive above the handrail, and was sometimes taken through the ceiling to form the newel on the landings above. It was always carved very profusely.

But here in Georgian work there is a great contrast; the handrail usually is turned round the stair, while in the earlier styles it was much more simply constructed by being jointed into the post. The panelling, too, of this staircase is typical of Georgian work

The more minutely the style is studied the more apparent are the little mistakes which bespeak the fact that the Georgian work was not under the supervision of architects, but merely designed by them roughly, and the work left to the craftsmen to set out and carry through.

The panelling of this staircase is badly spaced, odd spaces by the side walls having been filled in with small panels. The balusters are spaced out three on a step. This baluster is quite common in Chester.

The marked similarity in Georgian work points to the suggestion that a good deal of the work was from stock designs. The staircase only rises up to the first floor, and is in three flights, being lighted by a huge window.

The building is now very much dilapidated, and is apportioned into offices.

It must be of a very early date, for an etching dated 1815 shows it to be very sadly in need of repair even at that time, although exaggerating dilapidations seems to be the etcher's license. It was probably built about 1730.

The house has once had the honour of being the abode of the Assize Court Judge, which was previous to 1780, for on the premises, in a filthy dark cupboard at the head of the back stairs, there were bundles of old wafers and tax receipts, dated from 1780, it being at one time a post office.

There are enormous cellars under the building, which were perhaps used for the house's storage of wine. Fully stocked the cellars must have been veritable bonded stores.

After an inspection of this Georgian house, it is all the more apparent that the Georgian architects did not thoroughly consider their buildings, and, although an architectural paper described them recently as being "so delightful to live in," it is extremely difficult to find much to enthuse over in this respect.

The poor arrangement of levels throughout the houses shows great lack of forethought, this being most noticeable in the profusion of steps, both rising and falling, in the passages to the rear portions of the houses, which were generally narrow and dark.

The Georgian architects' first aim, it seems, was to have the windows spaced evenly on the elevations of the buildings. Through this the rooms have suffered a great deal by reason of the dividing walls or partitions very frequently halving the windows, which was circumvented by the wall being splayed from the sides of the windows.

Cupboards were placed everywhere, in any nook or cranny which was considered waste space, and were neither ventilated nor lighted, thus becoming receptacles for rubbish, which, being out of sight, was thus out of mind. Roof lights were very often an easy solution to the lighting problem. Our illustration is from a measured drawing by Mr. B. Fraser, which was awarded a prize in "The Architect" Students' Sketching and Measuring Club.

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INTERIOR, CHURCH OF ST. MARGARET, LOTHBURY

THE BARBERS COMPANY'S HALL AND ST. MARGARET'S, LOTHBURY.*

By ARTHUR J. PITMAN.

THE Barbers Company was first incorporated in the year 1461, though it is certain that there was a Guild of Barbers in London long before the admission of Richard le Barbour as Master in 1308, of whose acts record exists. This grant was in the petition of one Thomas Morsted, Esquire, chirurgeon to Henry IV., V., and VI., who was buried in St. Olave's, Jewry. The preamble to the Letters Patent, 1 Edward IV., incorporating the company recites that the Freemen of the Mystery of Barbers of the City of London, using the Mystery or Faculty of Surgery, had for a long time exercised and sustained and still continued to exercise and sustain great application and labour, as well about the curing and healing wounds, blows, and other infirmities as in the letting of blood and drawing of teeth, and that by the ignorance and unskilfulness of some of the said barbers, as well freemen of the said city as of others being foreign surgeons, many misfortunes had happened to divers people by the unskilfulness of such barbers and surgeons in healing and curing wounds, blows, hurts, and other infirmities, and that it was to be feared that the like or worse evils might thereafter ensue unless a suitable remedy was speedily provided in the premises. And it was thereby granted to the freemen of the said mystery of barbers in the said City of London that the said mystery and all the men of the said mystery should be one body and one perpetual community, and as such should have the survey, search, correction, and government of all the freemen of the said city being surgeons, using the mystery of barbers in the said city, and other surgeons being foreigners practising the mystery of surgery within the said city and suburbs thereof, and the punishment of them for offences in not perfectly executing, performing, and using the said mystery, and should have the survey of all manner of instruments, plaisters, and other medicines, and the receipts used by the said barbers and surgeons for the curing and healing of sores, wounds, hurts, and such like infirmities. And that no barber using the said mystery of surgery within the said city or suburbs should be thereafter admitted to exercise the same mystery unless he had first been approved of as well instructed in that mystery by the said masters or governors or their successors sufficiently qualified in that behalf. The Barbers Company as thus incorporated continued to exercise its functions until the reign of Henry VIII. By the Act of Parliament of 32 Henry VIII. the independent Company of the Surgeons of London was united to the Barbers Company and together known as the Barbers and Surgeons of London. This union lasted until the reign of George II., when by the Act of Parliament 18 George II. it was decreed that the connection should be dissolved, it having appeared that the barbers had for many years past been engaged in a business foreign to, and independent of, the practice of surgery, and that the connection did not conduce to the progress of the art of surgery. The charters granted by Edward IV., Henry VII., Henry VIII., Elizabeth, Philip and Mary, Charles I., Charles II., James II., and Queen Anne are in Latin engrossed in court hand with great abbreviations, and are only legible by an expert. The governing body of the Company consists of a master or governor, three wardens, and twenty assistants.

In days of remote antiquity the art of surgery and the trade of a barber were always combined, and the connection apparently began by the custom of the former to assist in the baths and in the use of them in the application of unguents as early as the time of the Greeks, who were the first to use public baths. Of this connection the writings of Athenæus, Pliny, Homer, Ovid, and others bear witness, and show how the attendants rubbed with oils, cut hair, drew teeth, bled, and practised other surgical operations apart from the use of physic. The conjunction of such opposite functions as barbery and surgery may appear to us in the present day as a remarkable incongruity.

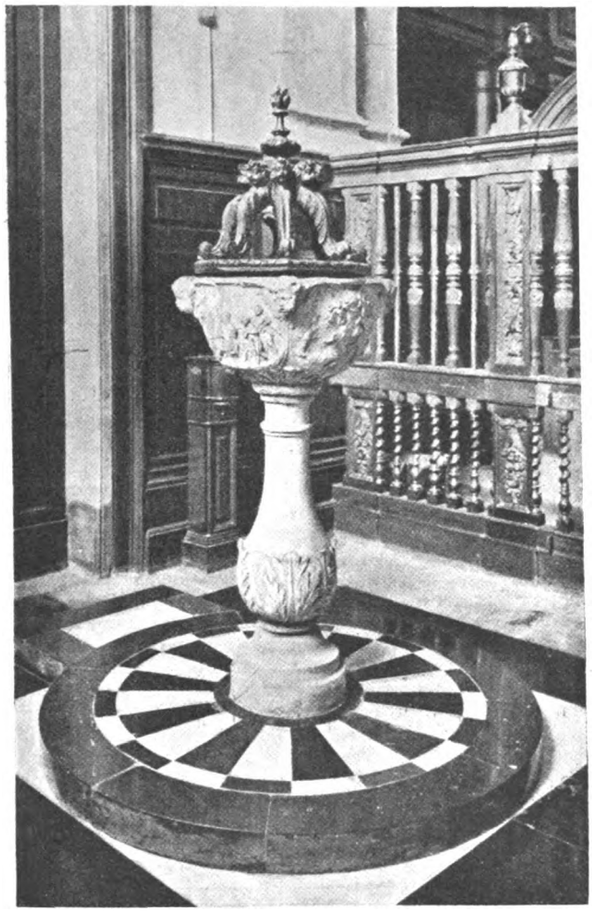
The magnificent building which is now the home of this Company consists of a spacious hall-room, court-room, and various other commodious offices. Passing through a paved court from Monkwell Street—so called because it contained a well for the use of the religious of Lambs' Court Chapel, a monastic institution founded in the reign of Edward I.—we notice at the entrance a singular piece of carved work exhibiting within it the arms of the Company and enriched with large fruit and other decorations. The face of the building was built after the Fire of London to repair the injury which this portion had sustained. From a small vestibule we enter the hall. To antiquaries, however, the most interesting part connected with this hall is that it consists of one of the bastions or bulwarks of the genuine Roman wall of London.

At the east end is a screen. The bold oval compartments of the ceiling have a good effect. On the walls are two large anatomical paintings, the life-size representing the muscular structure of man. The court-room has a fretwork ceiling with a handsome cupola light. The ceiling is from the hands of Inigo Jones, the architect of the building, considered to be a masterpiece of its kind, and exhibiting that elegant simplicity which characterises all his work. There is an admirable portrait of him by Vandyke, and a plaster bust over the door. There are also portraits of Sarah, Countess of Richmond, by Sir Peter Lely (placed over the fireplace); of Sir Charles Scarborough, M.D., in a red gown, hood, and cap, reading a lecture, assisted by Edward Arris, Master of the Company in 1651, in the livery gown, as demonstrating surgeon, painted by Vandyke; of Sir Charles Bernard, sergeant-

* Read at a meeting of the Upper Norwood Athenæum.

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surgeon to Queen Anne; of Charles II.; of Sir John Fredrick, Master in 1654 and 1658; of Mr. Thomas Lisle, barber to King Charles II., and Master in 1662; and of other less noteworthy persons. But the most glorious picture of all is that by Hans Holbein, probably his finest English performance, and certainly of great interest here, as it represents Henry VIII. delivering to the Barber Surgeons the Charter by which they were incorporated in 1541. It is painted on oak panel, and is in fine condition. The original cartoons from which this picture was painted are in existence, and by a judicious apposition are made to constitute a replica of the picture. This is in possession of the Royal College of Surgeons.



THE FONT.—CHURCH OF ST. MARGARET, LOTHBURY.

The theatre, which it is stated was one of the best of the works of Inigo Jones, was pulled down about the year 1782. It was of elliptical form, commodiously fitted up with four degrees of seats of cedar wood rising one above the other, and adorned with the figures of the seven liberal sciences and the twelve signs of the Zodiac. It was finished with an elliptical cupola. An engraving showing the plan is preserved amongst the works of Inigo Jones in Worcester College, Oxford. Two public and two private lectures were annually given in this theatre on the bodies of executed malefactors, and Hogarth in one of his pictures portrays the gruesome scene of the dissection of a body on one of these occasions.

The Company is rich in its beautiful plate, which is rare of its kind. It consists chiefly of a silver-gilt cup and cover with bells, presented by Henry VIII.; a cup and cover presented by Charles II.; a large bowl presented by Queen Anne; a tea urn; a flagon; two large dishes; four large cups and covers; and four goblets.

The Company's houses in Monkwell Street, with the livery hall, the kitchen, and larder, being worn out and in a dilapidated condition, were taken down in 1864.

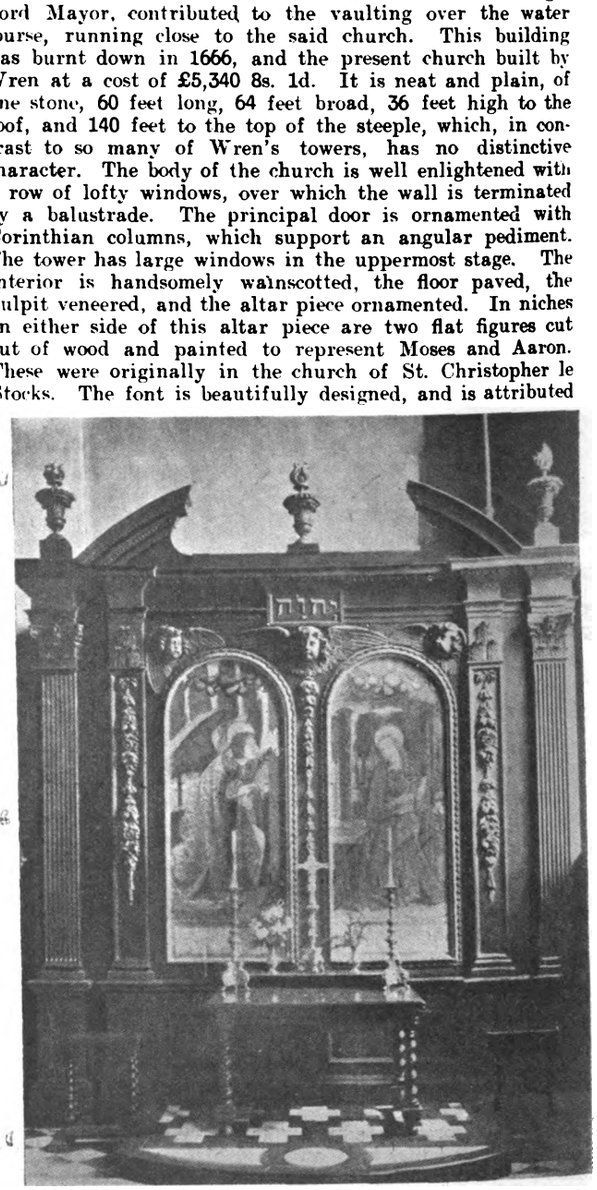
The two-leaved leather screen across the principal entrance is stated to have been given to the Company by a criminal hanged at Tyburn and brought to the Hall for dissection. The poor wretch was resuscitated, kept hidden for some time, and then sent abroad at the Company's expense. He ultimately became rich and in gratitude sent the screen, of which two compartments are missing.

Opposite the Hall are almshouses for twelve poor persons, founded by Sir Ambrose Nicholas, Knight, Salter and Lord Mayor in 1575.

ST. MARGARET'S CHURCH, LOTHBURY.

Lothbury, Lothberie, Lothbery, Lathbery, or Loadbury was so called from a Court of ancient time kept in this place. *Lode* in Old English implied *to lead*. Lodebury, it has been suggested, might therefore with great propriety be so called as being the first considerable mansion of its time from Moorgate. In Stow's time it was inhabited by founders, who cast candlesticks, chafing dishes, spice mortars, and such like copper and latten (yellow metal resembling brass) articles.

The church of St. Margaret stands upon the watercourse of Walbrook. The original fabric was of ancient foundation, for the Abbess and Convent of Barking, in Essex, presented John de Haslingfield to the Rectory in 1303, and in that community the presentation remained till the suppression of the Convent, when it was seized by the Crown and still remains in the gift of the Lord Chancellor. The church was rebuilt in 1440, at which time Richard Lange, Lord Mayor, contributed to the vaulting over the water course, running close to the said church. This building was burnt down in 1666, and the present church built by Wren at a cost of £5,340 8s. 1d. It is neat and plain, of fine stone, 60 feet long, 64 feet broad, 36 feet high to the roof, and 140 feet to the top of the steeple, which, in contrast to so many of Wren's towers, has no distinctive character. The body of the church is well enlightened with a row of lofty windows, over which the wall is terminated by a balustrade. The principal door is ornamented with Corinthian columns, which support an angular pediment. The tower has large windows in the uppermost stage. The interior is handsomely wainscotted, the floor paved, the pulpit veneered, and the altar piece ornamented. In niches on either side of this altar piece are two flat figures cut out of wood and painted to represent Moses and Aaron. These were originally in the church of St. Christopher le Stocks. The font is beautifully designed, and is attributed



LADY CHAPEL.—CHURCH OF ST MARGARET, LOTHBURY.

to Grinling Gibbons. The carvings on the basin represent the Garden of Eden and the Fall of Man; the salvation of Noah and his family in the Ark; the Baptism of Jesus by John the Baptist; and Philip baptising the Eunuch. The cover is adorned with figures of St. Margaret accompanied by Faith, Hope, and Charity. St. Margaret, to whom the church is dedicated, was a Virgin Saint of Antioch, who suffered in the reign of Decius, and in the nave is to be

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seen a red stone from the heathen shrine at which she was called upon to worship.

There are monuments to Reginald Coleman (1383), son of Robert Coleman, the first builder or owner of Coleman Street, and to Sir John Leigh (1564), whose epitaph runs:—

"No wealth, no praise, no bright renowne, no skill,
No force, no fame, no prince's love, no toyle,
Though forraine lands by travel search you will,
No faithful service of thy country soile,
Can life prolong one minute of an houre;
But death at length will execute his power.
For Sir John Leigh, to sundry countries knowne,
A worthy Knight, well of his prince esteemed,
By seeing much to great experience growne,
Though safe on seas, though sure on land he seemed,
Yet here he lyes, too soone by Death opprest;
His fame yet lives, his soule in Heaven hath rest."

With the living of St. Margaret, Lothbury, is now incorporated St. Christopher le Stocks and St. Bartholomew Exchange with St. Olave, Old Jewry, St. Martin, Pomeroy, St. Mildred, Poultry, and St. Mary, Colechurch. The church of St. Christopher le Stocks formerly stood on the ground now occupied by the south-west corner of the Bank of England. St. Christopher, to whom it is dedicated, was a Canaanite and originally named Reprobus; but having been converted, he became a successful propagator of Christian doctrines. The Roman Calendars state that by his miracles he drew from Paganism no less than 48,000 persons. He was beheaded on July 25, 254 A.D., in the reign of the Emperor Decius. He obtained the name of Christopher on account of passing through many waters of affliction, pain, and torments with the strength and virtue which the Lord Jesus gave him. This has been represented in legendary art by a gigantic figure carrying a child on his shoulder through the raging torrents of a river. In 1781 the church was pulled down because in the riots in 1780 it was seized by the mob and turned into a place of advantage which caused the authorities of the Bank of England no little concern.

Over the altar is a stone carving surrounded by seven medallions representing the seven churches now represented by St. Margaret's, Lothbury. The screen, which dates from the time of Queen Anne, came from All Hallows, Thames Street. The reredos in the Lady chapel and the screen separating it from the nave of the church came from St. Olave's, Old Jewry. And many of the memorial tablets have been brought from those churches now demolished.

ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY.

THE general meeting of the above Society was held on Tuesday, December 1, at 18 Tufton Street, S.W. Mr. Ernest Newton, P.R.I.B.A., was in the chair.

Before proceeding with the business of the meeting Mr. Newton said he must refer to the regrettable death of Mr. W. Edward Woolley, the late President of this Society. It is the custom for the Presidency of the Society to be held in alternate years by the President of the Surveyors' Institution and the President of the Royal Institute of British Architects. Mr. Woolley, up to the time of his death at the end of October, was, as President of the Surveyors' Institution, President of this Society, and as such took a great interest in its work. Mr. Woolley gave it very valuable support at the time of its inauguration. He was one of the first to come forward and join the Society as an hon. member and make a donation to the little Benevolent Fund.

Mr. Chatfeild Clarke (President of the Surveyors' Institution) proposed that Mr. Ernest Newton should be elected a Trustee of the Society in the place of Sir Aston Webb, R.A., who, through his numerous other engagements, finds he is unable to continue to act in that capacity. Mr. Newton was a most distinguished architect, and also a capable man of business. The Society would have in him a chairman of high position and ability.

This was seconded by Mr. F. R. Priest, and carried unanimously.

Mr. F. R. Yerbury (secretary) gave the following statement of the progress and work of the Society:—"I am pleased to be able to report that the success of this Society, of which I was able to give you some indication at the general meeting last year, has been continued. The report of the work of the Society to July last, already issued to members, will give some indication of this; but you will probably be interested to hear further of the Society's operations up to the present date. Since last December we have enrolled 149 members. This makes a total of 2,157 enrolled in the Society since its foundation. Of these we have lost 298, the majority of whom have intimated that they have passed beyond the scope of the Act. A few have transferred to other professional Societies, having changed their professions, and some have been struck off owing to the fact that they have ceased to contribute and their whereabouts are unknown. The net membership at the present time is 1,859. The sickness experience during the year has been very light. We have paid 146 claims for sickness benefit in the men's section, and two claims in the ladies' section. With the exception of one or two cases the illnesses have not been serious. We have two members now receiving disablement benefit, and I am sure we all extend to them our sympathies in their sufferings. Two members have been receiving sanatorium benefit during the year—in both cases, I am glad to say, with very excellent results. One member came out of the sanatorium completely cured, and we have been able to find him a berth, and the other is now practically cured also. Forty-one babies have been born to members of the Society during the year. In some cases we have made a point of visiting members when they have been ill and assisting them in various small ways, and in one or two cases the value of our Benevolent Fund has been felt very strongly by the committee. The committee values very much the support given to this Benevolent Fund by hon. members of the Society, and it hopes that members will do their best to increase the income of the Fund, particularly as in these times we shall doubtless have increased calls upon it. Members will be interested to know that there are no less than 187 members of the Society serving with the Forces. The committee which has been appointed by the Architectural Association to provide comforts and look after the welfare of those of our profession serving with the Forces has very kindly undertaken to include members of this Society in the scope of its operations, and arrangements are being made to put these members in touch with this committee. Generally speaking, the whole machinery of the administration is beginning to run more smoothly, although the continuous stream of regulations received from the Commissioners raises many complications. This is inevitable, perhaps, until such times as the system of National Insurance is in thorough working order. Those members who have been able to understand the system of penalty arrears and reserve contributions outlined in their new Insurance books will realise that the failure to send in cards is likely to meet with serious consequences as far as the insured person is concerned, inasmuch as he is likely to be penalised to the extent of not receiving benefit of any kind for a whole year. This should do much to induce members to send in cards at the proper time. At present, alas! there is a very considerable slackness in this respect. No doubt this is due to members of the profession not being particularly interested in National Insurance; but I feel sure that if members realised what a great convenience it is to have the cards sent in promptly they would do their best to assist. A scheme for voluntary insurance for architects and surveyors, quite apart from that required by the Insurance Act, was formulated, and a considerable amount of time and expert advice was given in connection with the scheme, and as a result a very attractive table of insurance was produced. Unfortunately, the support was not forthcoming from the profession generally to proceed with the scheme. Probably this was due to the fact that the members connected the scheme with compulsory National Insurance, and would have none of it. Later on, however, we may possibly make another attempt to float the scheme, and I am quite certain that if its provisions are properly understood the support forthcoming would be considerable, and an excellent opportunity would be offered to everyone to insure against illness, old age, and death. In conclusion, I should like to thank members generally for the consideration and courtesy shown by them, and for the many expressions of appreciation for any efforts made on their behalf.

Mr. Philip E. Webb, A.R.I.B.A. (hon. treasurer), said they would all agree that the year has been a very satisfactory one financially. The costs of the administration were kept in view all the time. Last year it worked out at only 2*s.* 8½*d.* per head, against 3*s.* 5*d.* allowed by the authorities

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But this cost tends to grow owing to the demands of the Government. Hardly a day passed without some new regulations. The Society very much hoped to have many new honorary members, for it was impossible to foretell what demands there might not be on this particular branch. As regards the administration expenses generally, none of the members of the Committee of Management take the expenses to which they are entitled.

Mr. Ernest Newton, A.R.A., before proposing the re-election of the Committee, said that the meeting gave pleasure to him as being the one opportunity afforded during the year for the President of the Society to get into touch with the members. He gladly took advantage of the occasion to express his interest in the welfare of the Society. It was obvious from what had just been told them that the Society is in an extremely flourishing condition, and it must be a great satisfaction for those who worked so hard in connection with its formation to know that their labours have met with a just reward. It was a wise thing to form a Society of this kind, particularly confined to members of the surveying and architectural professions. Assistants are compelled to be insured, and it is much better in every way for them to insure through a society belonging to their profession rather than through any other. The sickness during the past year has been very light, and those more robust members fortunate enough never to be on the sick list will be glad to feel that their general good health will probably enable the Society to give bigger benefits later on to their weaker brethren in their own professions. The Benevolent Fund, too, is an excellent thing. This is removed from the control of the State and is administered entirely at the discretion of the Committee. Generally speaking, the Benevolent Funds in our professions are mostly for the benefit of those that have been in practice and have fallen on bad times. It seems, therefore, there was a real need for a Benevolent Fund like this one, which is for the benefit of the younger members. The Society is, he believed, doing an excellent work, and the fact that it is so well supported by those for whom it is intended shows that its work is appreciated. This success is due in no small measure to the efforts of the Committee of Management. The running of a Society of this kind is no light task. The whole system of National Insurance bristles with complications. Before moving the re-election of that Committee he would like to make special mention of the debt owing to its Chairman, Mr. George Corderoy. Mr. Corderoy was one of the prime movers in the formation of the Society, and since that time he has placed an enormous amount of time and energy at its disposal.

President.—Ernest Newton, A.R.A. (President, Royal Institute of British Architects).

Vice-Presidents.—H. Chatfeild Clarke, F.R.I.B.A. (President, Surveyors' Institution), T. E. Bare (President, Quantity Surveyors' Association), Charles Bidwell, F.S.I., Reginald Blomfield, R.A., M.A., F.R.I.B.A., T. J. Carless, T. E. Collcutt, F.R.I.B.A., Sir William Emerson, F.R.I.B.A., Sir Ernest George, A.R.A., F.R.I.B.A., W. Curtis Green, F.R.I.B.A., Gerald C. Horsley, F.R.I.B.A., Maurice E. Webb, M.A. (President, Architectural Association), Percy B. Tubbs, F.R.I.B.A. (Past-President, Society of Architects), J. J. Lish, Howard Martin, F.S.I., Henry Riley, Sir J. F. L. Rolleston, M.P., Sir A. R. Stenning, F.S.I., H. T. Steward, F.S.I., Hon. Edward Strutt, F.S.I., Leslie R. Vigers, F.S.I., and Thomas T. Wainwright, F.S.I.

Trustees.—W. Edgar Horne, M.P., F.S.I., Daniel Watney, F.S.I., and Ernest Newton, A.R.A., P.R.I.B.A.

Auditors.—Turville Brown, F.S.I., and F. R. Priest.

Committee of Management.—George Corderoy, F.S.I. (Chairman), E. H. Blake, F.S.I., C. MacArthur Butler, F.C.I.S., Walter Cave, F.R.I.B.A., A. G. Cross, F.S.I., Ralph Ellis, F.S.I., W. J. Fisher, A. Goddard, George Hubbard, F.R.I.B.A., F.S.A., H. A. James, B. Marr Johnson, F.S.I., H. M. Fletcher, M.A., F.R.I.B.A., R. G. Lovell, A.R.I.B.A., Ian MacAlister, B.A., E. C. P. Monson, F.R.I.B.A., W. G. Newton, M.A., A.R.I.B.A., Herbert Passmore, F.R.I.B.A., F. R. Priest, G. Reeves, H. D. Searles-Wood, F.R.I.B.A., Clifford T. Steward, F.S.I., H. W. Virgo, Maurice E. Webb, M.A., and H. D. Whitham.

Treasurer.—Philip E. Webb, A.R.I.B.A.

Finance Committee.—George Corderoy, F.S.I., Herbert Passmore, F.R.I.B.A., G. Reeves, Clifford T. Steward, F.S.I., and Maurice E. Webb, M.A.

Membership Committee.—H. A. James, G. Reeves, H. W. Virgo, and H. D. Witham.

Secretary.—F. R. Yerbury, A.F.I.

Mr. Blake seconded the reappointment of the Committee. This was carried unanimously.

Mr. George Corderoy responded to the resolution.

Mr. G. Reeves moved a resolution confirming amendment of rules.

Mr. H. D. Whitham seconded.

The resolution was carried unanimously.

Mr. H. Austen Hall (Acting President A.A.) moved a vote of thanks to the Chairman.

The meeting then terminated.

TO SAVE FOUR TOWNS.

In a recent number of the *Figaro* a solemn appeal was made by M. Maeterlinck, the poet and writer, to the United States and Italy to intervene in the present desperate struggle, and thus to save all that is left of that unhappy country Belgium. The article is as follows:—

First Louvain, then Malines, Termonde, Lierre, Dixmude, and Nieuport (to mention only the disasters in Flanders); Furnes is sorely hurt, and Ypres is no more. Compared with those great Flemish cities, Brussels, Antwerp, Ghent, and Bruges, great and peerless living museums which sheltered a race attached in a unique fashion to its traditions, these form a constellation of delightful and hospitable small towns, but too little known to travellers, each of them with their air of peace, of amenity, of innocent cheeriness, or of contemplation: each jealously cherishing their treasures, their belfries, churches, canals, time-worn bridges, restful convents, and old houses. These stamp them with a unique and unforgettable atmosphere.

But the acknowledged queen of these beautiful orphans was Ypres with its vast Grande Place fringed by small houses with lace-like gables and the prodigious Halles occupying one whole side of the square. Every visitor carried away haunting memories of what he had seen, though it be but once, so unexpected was it, fairy-like, almost unreal in its disproportion to the remainder of the town. Thus the old city, whose life shrunk from century to century, remained the unshaken and magnificent witness to the power and wealth of that time when Ypres was one of the busiest hives of industry and the cradle of real liberty, sharing with Ghent and Bruges the triple sovereignty of the western world. Such was she yesterday. Alas! one dare not tell what she is to-day. Her "Place" with the enormous but indescribably harmonious mass of its Halles, at once strong and refined, sombre, fierce, proud yet friendly, made up one of the most perfect and marvellous groupings to be seen on this old earth of ours. In its own way, with other elements and under harsher skies, it can be deemed as precious to mankind, as sacred and as intangible as St. Mark's Square, Venice, the Seignory of Florence, or the Cathedral Square at Pisa. It made a unique and faultless work of art, wringing admiration from the most callous, an ornament which one hoped would be imperishable, an example of those things of beauty which, as the poet says, are a joy for ever.

I could scarcely believe that Ypres was no more. And yet in this ghastly war one must be ready to believe anything, more especially the worst. Fatally, inevitably, will now come the turn of Bruges; then the wave of the barbarians will again break over Ghent, Antwerp, and Brussels. Suddenly there will disappear one of those corners of the world where the not least historic memories and the greatest beauties have accumulated. We did what we could to defend it, but all to no purpose. The most heroic armies are powerless to check the hordes of vandals as they surge along butchering women and children and destroying methodically and wantonly everything in their path. One hope alone remains to us: the immediate and commanding intervention of neutral nations. Towards them we throw an agonised glance. Notably towards two great nations: Italy and the United States hold in their hands the fate of those last remaining treasures whose loss will one day be reckoned amongst the heaviest of civilised times. They can do what they wish. It is high time they tried to achieve that which they have not attempted to do. By his hideous lies the beast of the further-Rhine shows the value he attaches to the opinion of those nations who have not yet armed against him. He is afraid. He feels that everything is collapsing underneath him, and he is being abandoned by all. Everywhere he seeks a glance that does not revile. Nowhere should he meet one. There is no need to tell Italy what our threatened towns are to us, for Italy is, *par excellence*, the land of noble towns.

Our cause is Italy's cause; she owes us her support. In destroying a work of beauty it was Germany's own genius

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and own deities which were outraged. As for America, she represents the Future better than any other race and must look to the days which will follow after the war. When peace comes back to the land it should not be found deserted or robbed of all her jewels. The places where this earth has been rendered beautiful through the work of centuries, through the happy results of goodwill, of patience, and of the genius of a race, are not very numerous. This corner of Flanders over which death is now hovering is one of those consecrated spots. Should it perish it will be an irreparable loss to generations yet unborn, who may yet be happy with those souvenirs and examples which nothing can replace.

LEEDS AND WEST YORKSHIRE ARCHITECTURAL SOCIETY.

THE opening general meeting of the above was held at the Leeds Institute on Thursday, November 19. The President, Mr. G. F. Bowman, occupied the chair.

A large exhibition of students' work, including work submitted for the Society's prizes, was on view.

The smoking concert which is usually held on this occasion was postponed.

The President gave his Inaugural Address and presented the prizes to the successful students present, the majority being absent owing to their military duties. In the course of it Mr. Bowman made the following remarks:—

During the past year the work of your Society has proceeded satisfactorily. Last winter session five lectures were delivered. These lectures were fairly well attended, but not quite so well as the Council would like, and it is hoped that those who possibly can will make special effort to attend the lectures that have been arranged for the coming winter session, which are as follows:—

'The Churches of Caen.' James R. Wigfull, Secretary of the Sheffield Society.

"The Story of Fountains Abbey." Mr. Thornton, of Leeds.

"Wren." J. H. Farrar, and he hopes to bring with him a collection of sketches made in Italy during his sojourn as the Travelling Student of the South Kensington School.

"The Contribution of Past Civilisations to Modern Culture." F. Gordon Foster, of Selby.

Of special interest was the visit in the summer to Askham Grange, York, the residence of W. Wales Fairbairne, Esq. A most delightful afternoon was spent in viewing the house and alterations and additions thereto, carried out from the designs and under the superintendence of Messrs. Connon and Chorley.

Six new members have joined the Sketching Club, and visits were made to Hawkesworth Hall and Kiddal Hall. Several important excursions had to be cancelled owing to the war. The work of the Sketching Club has been good, and the younger members seem to be much keener, and, backed up by the older men of the Society, are at least trying to attempt something.

In response to a request made by the Leeds Education Committee, the Council of the Architectural Society has established a rota of visitors to inspect the classes at the Leeds School of Art and to criticise the work done by the students, and this procedure has been of great use. The Department of Architecture is not yet one of the "recognised" Schools of Architecture under the Board of Architectural Education, but as the suggestions of the Board have now been adopted it is hoped that before long the Board will include the Leeds Department of Architecture in their list of "recognised" schools.

The number of students on the roll for the present session is a reduced one, owing to so many of the last session's students having joined the Forces for military service; but, with the assistance of those who are unable for various reasons to volunteer for service, it is anticipated that much good work will be done in the school, and that the current session will hold its own with its predecessors, in spite of all difficulties.

The competition for the Society's prizes this year may be considered fairly satisfactory.

The silver medal and President's prize of £5 5*s.* have been awarded to Leonard Foster for drawings of Bardsey Church. There were only two competitors for this prize, but the Council felt that they were both of considerable merit, and decided to award a bronze medal and £2 2*s.* to W. Voelkel for drawings of the Central Station, Newcastle.

For the sketching prize there were four competitors. The whole of the work submitted was of considerable merit. The first prize is awarded to W. Eric Ramsden, and further prizes of £2 2*s.* each are awarded to W. Voelkel and L. Foster. The Council regret there were no competitors for the Construction or Essay prize.

During the year the title of the Society has been changed from the Leeds and Yorkshire Architectural Society to the Leeds and West Yorkshire Architectural Society. This came about owing to the R.I.B.A. considering the question of the areas allotted to the various provincial societies. They considered that in some cases portions of the areas thus allotted were outside the range of influence of the Society in whose area they then were. Therefore York, Sheffield and this Society were asked to endeavour to arrange distinct boundaries to the areas over which it was thought in the best interests of the Society concerned they could work.

An endeavour was made to form a new Society for Hull and district, but without success, and finally it was decided that York should take the East and North Ridings of Yorkshire, Sheffield a portion of the South-West of Yorkshire with portions of Derbyshire and Lincolnshire, and that Leeds should retain the West Riding of Yorkshire generally.

Several meetings were held, and the arrangement come to was entirely satisfactory to the societies concerned. This Society still covers the greater portion of the densely populated part of the West Riding.

A circular was issued by the R.I.B.A. concerning the Relief Fund in connection with the war. The Council decided to raise a fund amongst the members, and to forward same to the Lord Mayor of Leeds to be included in the local Fund. The amount raised is £50 3*s.*, of which sum the Council granted £20 from the funds of the Society.

There is still a good balance in the hands of their esteemed Treasurer, Mr. R. Fielding Farrar.

The work of a society of this kind would fare badly indeed of it were not placed in the hands of a good and capable secretary. That Mr. Wm. Whitehead is *par excellence* in this capacity goes without saying. To his work, energy and real interest in the Society we owe a great deal.

There are twenty-two architects and architects' assistants connected with this Society who are known to be serving or who have volunteered for service in His Majesty's Forces. Included in these is Colonel Albert E. Kirk, the late President, and also Lieutenant Sydney D. Kitson, who was President three years ago.

Turning to the work of the city, we may say that there has not been any excess of work—in the opinion of we architects there never is. However, there are several matters which deserve attention.

The Society must feel gratified that one of its members, Mr. W. Carby Hall, has become a member of the City Council, and as Chairman of the Development Committee is dealing with that vast area which a few years ago was covered with slum property, and which is now being developed and promises to become one of the best industrial parts of this city. On other sections of the city's work his special knowledge will be of great service. The work of clearing away property and the laying-out of the new street, being a continuation of Calverley Street and extending to Fenton Street, is going along with commendable dispatch, and no doubt, with the extensions of the infirmary buildings, this will prove to be a great improvement. The completion of the present scheme will no doubt lead to further extensions at, let us hope, no distant date.

Considerable development has also taken place in the Swinegate area, where the Tramway Depôt has just been completed from designs by Messrs. Connon & Chorley.

The Council was asked by the City Improvements Committee to give an opinion on the frontage line and the laying out of the Cookridge Street improvement.

The Leeds City Council have for some time past followed the commendable practice of placing various building works in the hands of local architects. This practice will prove to be in the interests of the city, and we are thankful that the City Council in its wisdom has adopted this course. They may feel assured that any architect entrusted with work will give of his best when that work is for his native city or the city of his adoption.

The most absorbing question at the present moment is the war. Architects feel its effect probably as much as any other section of the community. Building has been greatly affected, having been almost brought to a standstill.

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General trade the last year or two was decidedly better, and architects were looking forward to better times. Many men in practice had commissions from clients, and were making preparations to get the work forward and contracts let, only to have their hopes dashed to the ground, and one wonders how long this turmoil is going to last and what will follow.

The *Cologne Gazette* consolingly reflects that out of the huge indemnity to be extracted from the English, German culture can rebuild better libraries and churches than those that have been razed to the dust. If ever Germany did proceed to rebuilding them, unhappy Belgium is indeed doomed to suffer more atrocities. As to the qualifications of the modern German to rebuild churches and cathedrals, here is Ruskin's view: "If the French or the English burnt a church one day they could build a prettier one the next, but the modern Prussian could not even build an imitation one."

After terms of peace are arrived at there will be enormous trade created, and one is led therefore to think that Britain, in her favoured position, will for some considerable time at least participate very greatly.

In respect to the effect upon architecture one might almost fancy we can see the Belgians and the French, who are a people of a naturally artistic temperament, made more steady and practical by the troublesome times they have passed through, raise themselves, and we may hope to see a relaying out and a rebuilding and planning take place in the devastated areas of to-day, from which in the near future will rise a more practical, healthy and more magnificent country than it has ever been in the past.

The fact that a great many Belgian refugees are in England, and the close unity between the two nations, may possibly have a great effect upon the future architecture of Belgium, and it would seem quite probable that (if the happy settlement comes about as we and our Allies desire) considerable work in the rebuilding of the towns and cities of that country may find its way into the hands of English architects. It may also be that the attention of architects in Britain and other countries, which by this wanton waste and the demolition of historic buildings having thus had their special attention called to them, that Belgian architecture and detail may have considerable effect upon architectural design at home.

There is little doubt that we are passing through one of the most trying times in the history of our country. It may be that it will have a steadying and sobering effect upon us as a people. I trust this may be so, and that the difficult and complicated matters that must of necessity arise in the settling-down process after this great ordeal will be carefully and successfully dealt with and that out of evil good may come.

Mr. W. H. Thorp, F.R.I.B.A., proposed a vote of thanks to the President, and in his speech touched upon the position of Belgium. He hoped that in the great rebuilding which would eventually take place the old Flemish character of their architecture would not be entirely lost.

Mr. H. S. Chorley, F.R.I.B.A., seconded the vote of thanks, and Mr. T. Butler Wilson, F.R.I.B.A., supported same. Mr. Wilson ventured to differ from Mr. Thorp's opinion as to the re-building of Belgium, and in a "pithy" speech caused much amusement in his wholehearted support for Classic architecture as practised in the best modern schools of to-day.

An examination and criticism of the drawings concluded the meeting.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY.

AT a meeting held on Wednesday, November 25, five honorary members were elected.

The President, Mr. Harry Gill, announced that the Society were arranging to send a Christmas greeting to each of the seventeen members who are now serving with the Colours, their names being as follows:—

Capt. B. E. Baily, Active Service Battalion, R.H.R.; Lieut.-Colonel A. W. Brewill, Active Service Battalion, R.H.R.; Lieut.-Colonel M. Hunter, 5th Batt. Notts and Derbyshire Regiment; H. Beaverstock, 12th Batt. Sherwood Foresters; E. H. Brown, 7th Batt. Notts and Derbyshire Regiment; E. Burnett, King's Royal Rifles; Second Lieutenant G. M. Eaton, 11th Batt. North Stafford Regiment; E. Fincham, 7th Batt. Notts and Derbyshire Regiment; H. P. Gill, 13th Batt. Sherwood Foresters; Second Lieutenant C. W. F. Hasledene, 5th Lincolns; Sergeant L. Y. Harris, 4th P.S. Batt. Royal Fusiliers; A. L. Holbrook, 7th Batt. Notts and Derbyshire Regiment; Second Lieutenant T. C. Howitt, Leicester Regiment; Corporal B. Jessop, King's Royal Rifles; C. E. King, 12th Batt. Sherwood Foresters; D. E. Knight, Officers' Training Corps; and Second Lieutenant N. H. Pratt, Kent Sherwood Foresters.

Mr. T. W. Hammond, who is well known locally, not merely as an artist, then showed upon the screen a large number of photographs of his charcoal and pastel drawings of old Nottingham from the 'sixties to the present day.

Their local value is of course immense, as, alas! most of the "quaint bits" of old Nottingham have gradually been replaced by "modern improvements."

The drawings were not merely highly artistic sketches. Their technique was excellent, but they were also very faithful reproductions of what at the time existed, and in many cases so carefully drawn as to be mistaken for actual photographs.

Some of the later ones showed how even a pile-driver on the river and the modern tram-poles and span-wires could be made into an artistic composition.

Mr. Hammond is a born raconteur, and the description of many amusing incidents experienced while making these sketches delighted a large audience, which included lady visitors.

Mr. Sutton, the Past-President, tendered to Mr. Hammond their thanks for his interesting lecture, and Mr. Watkins, Vice-President, in seconding, suggested that Mr. Hammond should have his drawings reproduced.

Mr. Hammond, in reply, said he had been asked several times if he would reproduce them, but has not yet decided.

NOTES ON BOOKS.

"Bell Towers and Bell Hanging. An Appeal to Architects." By Sir Arthur Percival Heywood, Bart., M.A., President of the Central Council of Bell Ringers, and of the Midland Counties Association of Ringers, etc., etc. With contributions by Edwin H. Lewis, M.A., E. Alexander Young, A.R.I.B.A., and others, and an Appendix. (London: Longmans, Green & Co. 2s. net.)

THE essence of this appeal to architects may be stated as an advocacy of the rigid bell-frame of wrought iron or steel construction with its supporting girders built into the tower walls instead of the "springy," free-standing, oak frame beloved of many architects, more perhaps from their reverence for the present condition of many an old frame than from scientific study of what actually occurs when a peal of bells is rung. The arguments in favour of a thoroughly rigid bed for the superincumbent bell-frame, and one firmly incorporated with the tower walls, are well set out and explained by the author. The contribution by Mr. Edwin H. Lewis is "a short summary of a series of experiments and calculations mainly directed to expose the fallacy of the theory that elasticity in a bell-frame relieves the strain on the fabric of a bell-tower." Mr. Young treats of "Some considerations as to the design, construction and stability of bell-towers"; and, as he deals with his subject from the point of view of an architect, as well as of a practical bell-ringer, his contribution is of high value. Needless to say, all the contributors support Sir Arthur Heywood's advocacy of rigidity in bell-frames and their bearings. Another point that is brought out clearly is the desirability of keeping the belfry windows above the bells, so much so that the ideal belfry from the musical point of view would be one without a covering. The volume should be studied by all architects who have to deal with belfries, whether civic or ecclesiastical.

"Elementary Graphic Statics." By John T. Wight, A.M.I.Mech.E., Lecturer in Machine Design and Prime Movers, Heriot-Watt College, Edinburgh. With 135 illustrations. (London: Whittaker & Co. 4s. net.)

THIS is an admirable little book for the architectural student as well as for the young engineer, being both clear and accurate. There are, however, some small matters that might be improved. In fig. 30, for example, a letter *n* has been omitted from the block. The definition of "pitch" of roof as a measurement in degrees should be supplemented by the more usual workmen's use of the terms quarter-

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pitch, third-pitch, &c., especially as the author himself employs this method elsewhere. We hope the R.I.B.A. examiners will not see this book or they may be tempted to puzzle candidates by asking for what the author calls the Swiss, the Belgian, the French, and the English trusses, forms in common everyday use but not generally so labelled. In fact, we should hardly be going too far to say that they are as logical as the terms Flemish and English bond, the former of which is used only in England and the latter all over the Continent. The author is to be commended for explaining difficult problems, often shirked by other writers, such as the indeterminate form of truss, irregular loading, and unsymmetrical forms of roofs and trusses.

"Building Stones and Clay-products. A handbook for architects." By Heinrich Ries, Ph.D., Professor of Economic Geology in Cornell University, &c., &c. (New York: John Wiley & Sons. London: Chapman & Hall, Ltd. 12*s.* 6*d.* net.)

THE general arrangement of this book follows the course of lectures given each year to the students in the College of Architecture of Cornell University, and we can congratulate our trans-Atlantic colleagues on the excellence of the instruction they receive. Much of the book is naturally devoted to American stones, but for the English student the professor's treatment of the general structure and properties of various classes of stone, of slate, of brick, of tile, and of drain-pipes is quite valuable, and particularly so the information given as to the methods of testing quality. The effects on stone of fire and of various causes of decay are very fully discussed and explained to a degree that is unknown in most English text-books. So, too, is the efflorescence of brick, its causes, prevention and cure. As some slates are imported from America to this country, it is interesting to note that the professor gives information as to those lacking durability either of colour or of substance.

"Practical Town-Planning." By J. S. Nettlefold, Author of "Practical Housing," Chairman of Harborne Tenants, Ltd. (London: The St. Catherine Press. 2*s.* net.)

TOWN-PLANNING is something more than the arrangement of roads and open spaces on a map to form a pretty pattern or even a symmetrical arrangement on axial lines. It needs more also than the provision of vistas, open, closed, or framed, of avenues and *places*. It is not, therefore, to be lightly essayed, as has too often been done. As Mr. Nettlefold says, "Any charlatan is ready to undertake it, and the less he has studied the subject the more he thinks he knows about it." The point of view from which the author treats the subject of town-planning in this volume may be described as that of the common weal. He lays stress on the importance of increasing the supply of building land by opening up cheap land and at the same time protecting it from land sweating. Naturally he has much to say in adverse criticism of those who make difficult the extension of town-planning methods that are for the public benefit—land jobbers, local authorities and their by-laws, and even Parliament. There is much useful information as to the practical inception and completion of town-planning schemes which it is an absolute necessity for a putative town-planner to have at his fingers' ends. Therefore the book is very valuable for him who would be an expert rather than a charlatan.

"Cabinet Timbers of Australia." By R. T. Baker, F.L.S. (Government of New South Wales.)

THIS is really an excellent illustrated catalogue to that section of the Sydney Technological Museum which contains the materials with which it deals. Coloured plates show the characteristic appearance of the many beautiful woods that are native to Australia, and photographs show applications of them to actual work, both in furniture and buildings. Highly interesting though these are, we do not find sufficient practical information; for example, one might be tempted to employ jarrah for joinery work if one were influenced by the description given, but in the light of practical experience we have become very chary, as the excessive tendency of this wood to warp and shrink makes it very dangerous. We should therefore not be inclined to follow the author in his statement that "it is very suitable for billiard-tables." Our experience with jarrah causes us to view with suspicion the author's recommendations with regard to others of the beautiful cabinet timbers of Australia.

CONCRETING IN FREEZING WEATHER, AND THE EFFECT OF FROST UPON CONCRETE.*

IF suitable precautions are taken there is now no reason why most forms of construction should not proceed during both summer and winter. In the case of masonry and brickwork it has become common practice in Canada to continue work until the thermometer falls to about 10° F. below zero, when the workmen will usually begin to feel the cold too severe.

In moderately cold weather the addition of a little lime will be found to give sufficient heat to the mortar, but for low temperatures the materials must be warmed.

Concrete work, especially the lighter forms of reinforced concrete, used in building construction needs greater care and supervision. As a result of considerable experience gained during the last few years, it can be said that the freezing of concrete will not damage it if it has first had a chance to set under favourable conditions for about two days. The effect of the freezing is simply to delay the process of hardening, which will again proceed under suitable conditions, and will eventually attain its full strength. If concrete is frozen before it has commenced to set, it will not be injured if precautions are taken to prevent it from freezing again after it thaws until it is sufficiently hardened to withstand the effects of subsequent freezings. It is alternate freezing and thawing during the process of setting that causes the damage.

To meet the foregoing conditions, when carrying out concrete work in winter, it is necessary to devise means of mixing the concrete with materials freed of frost, placing it in the forms before it has commenced to freeze, and then protecting it and keeping it warm for about two days. After that it may be allowed to freeze without fear of its being damaged.

In the case of concrete-in-mass, of large bulk, all that will be necessary is to protect the outside of the concrete so as to keep the heat in. This can best be done by covering the concrete with clean straw.

The author does not approve of using salt, but has found that, instead, good results will be obtained for temperatures that do not fall below 22° F. by heating the water with a steam hose taken from the mixer-boiler, and when necessary placing a few coke or wood fires on the heaps of sand and crushed stone, the usual precautions being taken to protect the concrete when in the forms.

For lower temperatures than those referred to above, greater precautions must be taken to heat the ingredients and to use the concrete as quickly as possible.

In placing the concrete the portion of the work to be carried out must first be decided upon, each section of the work being kept as confined as possible, as this will save expense in heating. The section having been selected, the floor immediately below it should be partitioned off with tarpaulins, and coke stoves arranged under the floor-slab, allowing about one stove to every 800 square feet of floor-space. All loose dirt and snow must be removed from the forms with brooms, and a steam hose should be applied—water cannot be used—to remove all ice and frost, the steam playing continuously over the forms in advance of the concrete, thus warming them in readiness for the concrete. The concrete should be poured quickly and continuously, and as each section is completed a tarpaulin may be drawn over it supported on wooden strips about 6 inches above the surface of the concrete. In most cases this protection will be sufficient, but during very cold weather it will sometimes be found necessary to form a sort of tent over the floor, in which extra stoves are placed to protect the workmen and the upper surfaces of the concrete. Great care must be taken to have the fires kept burning continuously for two days, until the setting is well advanced.

To collect data upon the effect of frost upon concrete is not easy, owing to the difficulty of deciding whether the corrosion is due to frost or a fault in workmanship, or is the effect of the concrete being frozen during the process of setting.

Judging from the information available at present, concrete exposed in air in a dry locality need not be affected by frost any more than good building stone, and probably it will stand much better. Concrete always submerged under water is protected and need cause no anxiety. But concrete alternately wetted and frozen must be protected from frost.

*** Summary of Paper read before the Institution of Civil Engineers, by John Hammersley-Heenan, Assoc.M.Inst.C.E.**

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ARCHITECTURE OF LONDON HIGHWAYS.

By Viator.

FROM OLD BOURNE TO TY BOURNE.

(Concluded from last week.)

Some of the recent work in High Holborn is of a high order of merit—work such as "Lincoln House" and the Pearl Assurance Offices, both these blocks decorating the south side of the thoroughfare, and being indicative of the improving state of architectural education at the present day. The Pearl Offices are so far only partially erected, but even in their one-winged appearance they form a monumental pile, whose sole objectionable feature is the starved dome. The polished light grey granite substructure, including the pavement balustrading, is very effective; and the arched entrance leading to the inner quadrangle is an excellent feature in Mr. H. P. Monckton's design. Mr. Waterhouse has shown how successfully Gothic can be applied to commercial architecture, but in general we find Renaissance employed, as in the present case.

The Holborn Cinema (the only one in this thoroughfare east of Oxford Street, the latter possessing four houses) was designed by Mr. F. W. Roberts (we believe), and has a stone façade in free Renaissance with Egyptian feeling in some of the capitals; it is a quiet design and not highly, if at all, inspired. Its neighbour, the London County and Westminster Bank, is another Renaissance stone block built many years ago, being one of the buildings which lend dignity and respectability to the thoroughfare.

So far as dignity is concerned, this cannot be predicated of the Holborn Restaurant, a building which is as floridly florid as its vis-à-vis, the Holborn Station block (Piccadilly Tube) is plainly plain. The restaurant was in course of erection between the years 1882 and 1896 and forms two distinct architectural blocks which need not detain us.

But before proceeding further westward we will see what the north side of High Holborn can show of interest from Gray's Inn Road westward. We certainly need not look long at Messrs. Gamage's premises; they are passable perhaps, but we would sooner pass them; the curious shop fascia running up into pediment contours is sufficiently displeasing.

The route from the Bank as far as Shepherd's Bush westward is that followed by the Central London Railway, and the stations are made distinctive from those of other companies by the use of buff terra-cotta simply designed. The series of stations is twelve in number and the superstructures take the guise of offices and hotels, mostly (if not always) from the designs of Mr. Delissa Joseph; doubtless they answer their purpose, but they are not as a rule architectural successes; and this is true at any rate of Chancery Lane Station Chambers and of those over the British Museum, Tottenham Court Road, and Oxford Circus Stations; an improvement is, however, noticeable in some of the more western blocks.

Nor does the First Avenue Hotel bring any blush of pleasure into our cheeks, though compared with the premises numbered 63 the hotel is high art. Alas! that in No. 63 (as later in Oxford Street) we should be confronted by such dire specimens of l'architecture nouveau. Messrs. Cardinal & Harford's premises (designed by Mr. W. Charles Waymouth) deserve notice for the virile carved picture frieze over the ground floor, showing laden camels, &c., descriptive of the business of the firm; Mr. Roscoe Mullins was the carver of this.

We know that the English sovereign is the head of the Church, but is that sufficient reason for placing him (under the guise of George I.) at the summit of the steeple of St. George's Church, Bloomsbury? This church, designed by the famous architect, Hawksmoor, lies just off our route; but in a stroll eastward from Oxford Street a good view of it is obtainable, where Hart Street joins the main thoroughfare; the portico and forecourt are fine, but the tope-shaped steeple has never given us pleasure.

In Nos. 80-100 New Oxford Street (mostly occupied by Messrs. Glave) we see a thoroughly good stucco block and well proportioned (saving that the arches to the ground floor openings are somewhat obtrusive). We cannot approve niches on such a block, whether occupied or (as in this case) unoccupied. The English Royal arms set in square panels look well, though the repetition gets a bit wearisome; the treatment of the spandrils is good also.

And now we will again turn our attention to the south side of the thoroughfare between Holborn Restaurant and Charing Cross Road. There are not many buildings of note, but amongst the few are the Library and Town Hall buildings. Messrs. Warwick & Hall have produced a noticeable pile here; the complete balance and the symmetrical effect, without burdensome and exact symmetry, are both good features. The work is an entirely thoughtful exercise in Renaissance and lends grace to the highway. The deep bas-relief frieze between the ground and first floors and the shaped oriel bow-windows deserve special notice. The only other block in this section of the route which we desire to regard is the Western Central Post Office, a quiet pleasing stone façade with attached columns of the Tuscan Order and Corinthian pilasters over; the twin entrance doorways are good, and the proportions of the building are pleasing.

Many now living can recall the former "Bozier's Court" on the north side of Oxford Street at the entry to Tottenham Court Road; the island block of buildings and the court have long since been swept away, and though this may be a street improvement, architecturally it leaves our withers unwrung. The fact is that we have long since been forced to the conclusion that, despite a few really first-class buildings, the route traversed in this article is one lacking in the interest which so many others hold. Were it not for the Prudential Insurance buildings, Staple Inn, St. Sepulchre's and St. Saviour's Churches, Messrs. Waring & Gillow's, and Selfridge's, architectural interest would be almost at a discount, whilst historic interest is mainly confined to Tyburn reminiscences. But let us see in a little greater detail what Oxford Street can show us, though we will pass by the Music Hall unhesitatingly; nor does the Frascati Restaurant detain us more than momentarily with its pot-brown glazed brick facing.

Passing by some quite recent work, the block Nos. 70 to 86 is worthy of attention, for though quite unpretentious, even plain, it exhibits good proportions and balance and the simpler qualities of art. For many years this block was identified with the firm of Collinson & Lock. If we desire to see anything architecturally interesting connected with Messrs. Bourne & Hollingsworth, it is not their Oxford Street, but their Gower Street premises which will prove attractive. Nor do Messrs. Mappin & Webb provide a feast for the eyes, despite the large amount of money expended on this white marble design by Messrs. Belcher & Joass; the best portion we regard as the wrought-iron balconies, and though the building is structurally sound, the effect of the superstructure being carried on Ionic column stilts, is only a little less unsatisfactory than the too customary effect of plate-glass support in modern emporia.

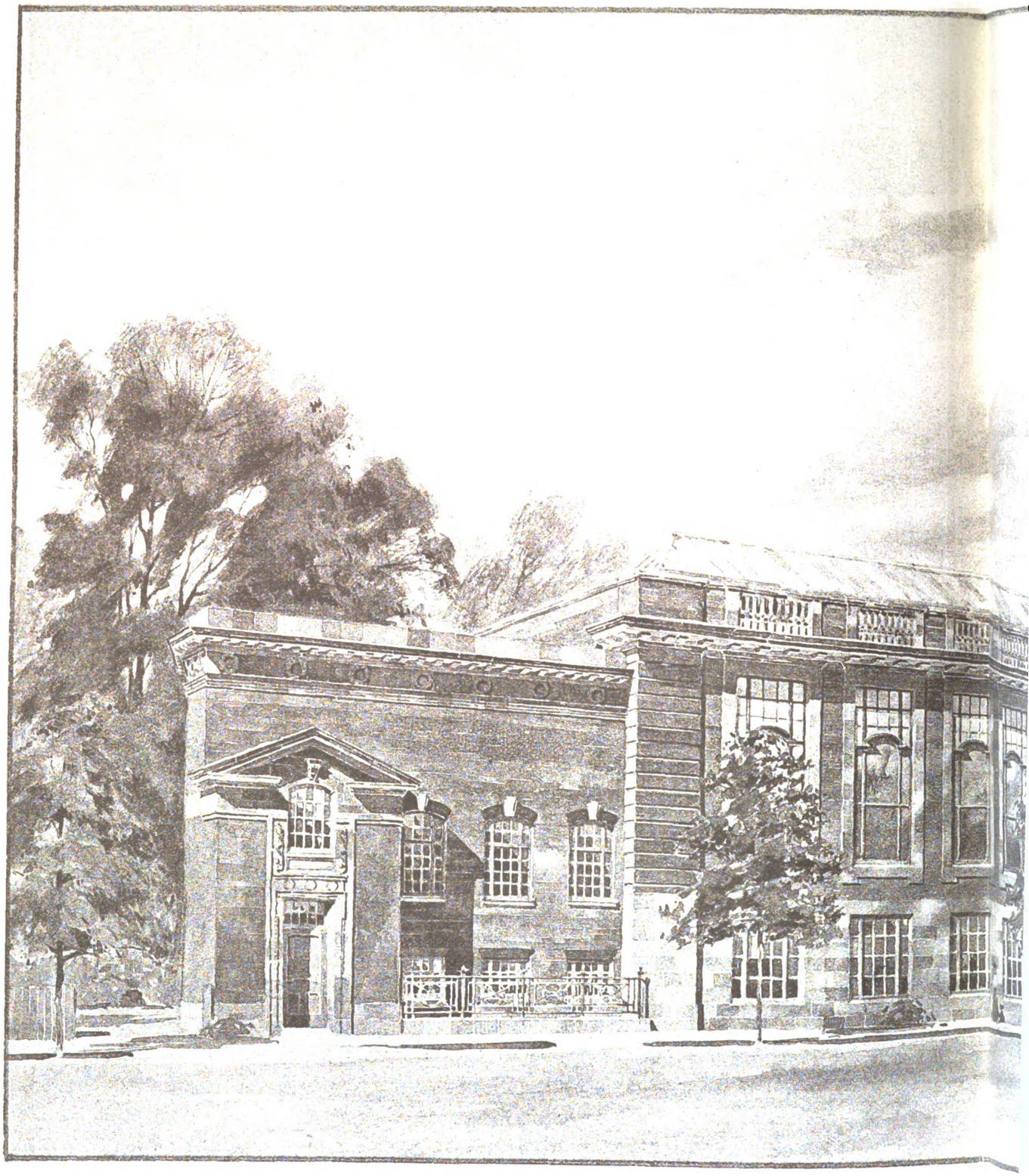
What a delightful contrast is provided by the designs of Mr. R. Frank Atkinson in the premises for Messrs. Waring & Gillow adjoining and in Selfridge's further west! In both cases we see good commercial architecture, expressive, artistic, and satisfying the eye æsthetically. Mr. Atkinson is not so much one of our rising, as one of our risen, men. Waring's block is a pleasant bit of colour in this considerably abused thoroughfare, and the contrast of the red brick with the white stone has all the charm of the Wrenesque art, of which it is a worthy successor. The sole adverse criticism we would offer is as to the somewhat dwarfed effect of the entrance, which is rather overborne by the Ionic colossal columns over.

And Selfridge's mammoth block is as entirely pleasing as, and even more imposing than, Waring's. The magnificent range of Ionic colossal columns of the superstructure is obviously carried upon ground storey piers, and in turn carries "attic" piers; the use of brown Portland stone is very effective, and this well-proportioned and well-designed block shares with Waring's and with the Prudential Offices the honours of the thoroughfare as regards commercial architecture. But between Waring's and Selfridge's comes, inter alia, Stratford Place, the work of the Brothers Adam, with Derby House filling in the short vista; it is always pleasant to regard the Brothers' architecture in its quiet, almost classic simplicity, its Puritan staidness.

On the south side of Oxford Street, between Charing Cross Road and Oxford Circus, there is nothing that need detain us, except the Pantheon, although more than a glance of approval is merited by two or three of the blocks intervening, including the Circus Restaurant by the late Professor Banister Fletcher. The Pantheon was erected in the year 1772 from the designs of James Wyatt for the purposes of a place of entertainment; subsequently, in 1834, it underwent considerable alterations (after a fire, we believe), being turned into a bazaar, the architect employed being the well-known Sydney Smirke, and a sum of £40,000 being expended. This is a well-proportioned graceful façade (or perhaps dignified is a better description), the colonnade extending over the footway in the Roman-Doric order of

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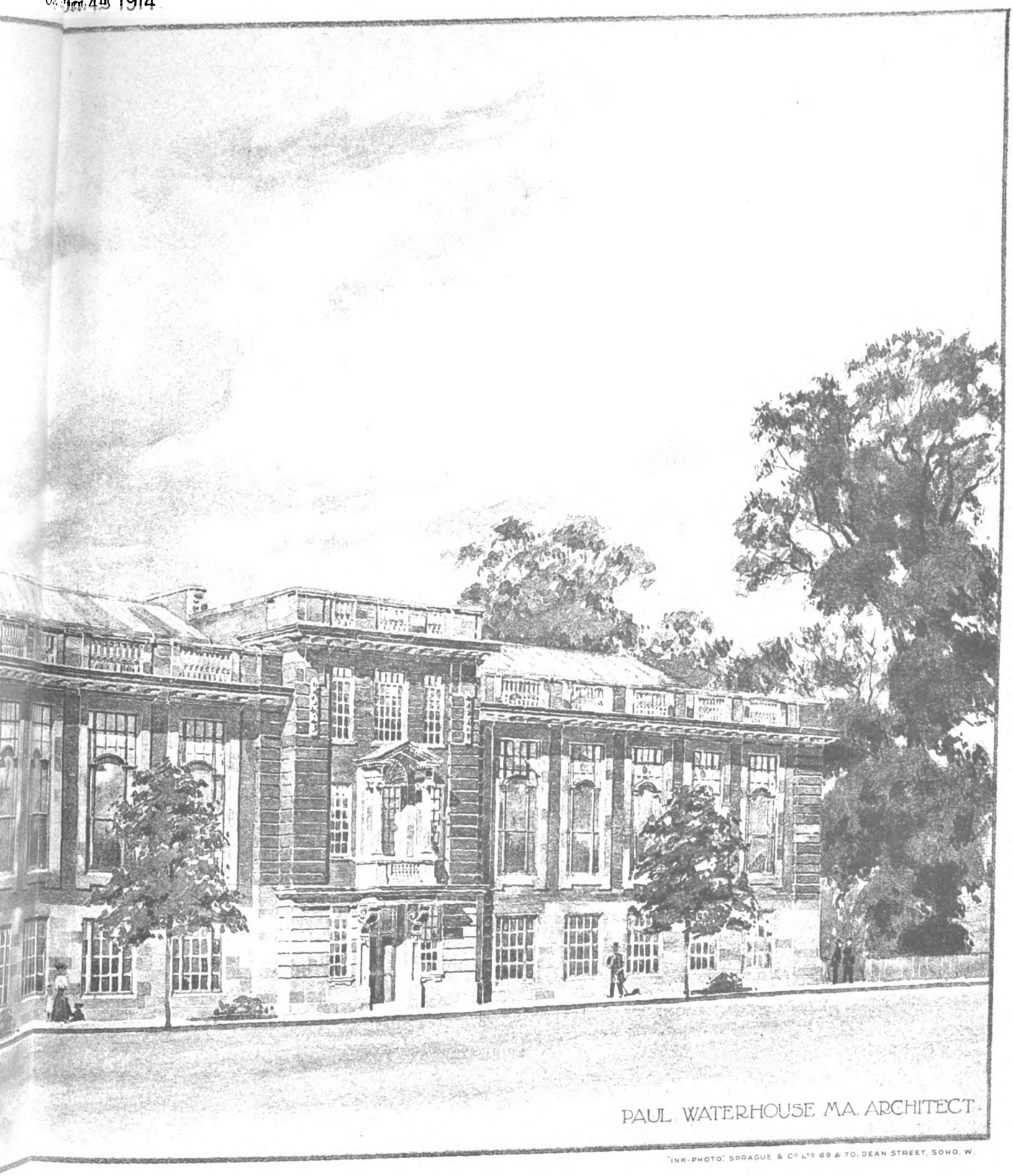
CHEMICAL LABORATORY: UNIVERSIT

MR. PAUL WATERHOUSE, M.A. F.R.I.B

(Royal Academy Exhibition, 1914.)

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Jan. 4th 1914



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UNIVERSITY OF OXFORD.

M.A. F.R.I.B.A., Architect.

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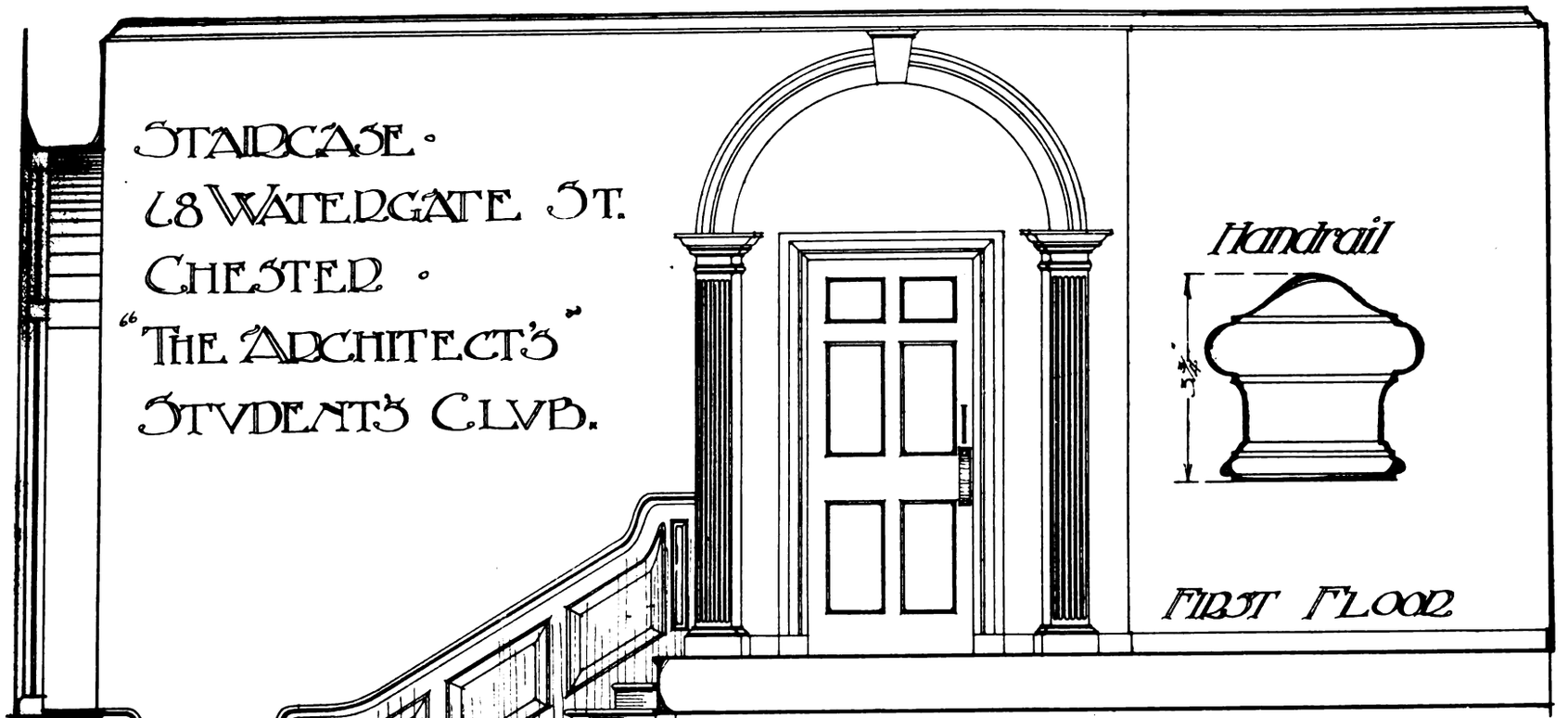
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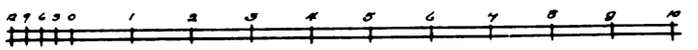
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The Architect, Dec: 4th 1914

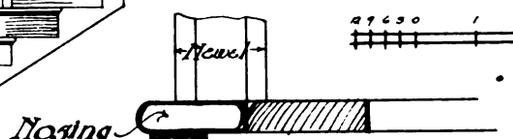
STAIRCASE.
68 WATERGATE ST.
CHESTER.
"THE ARCHITECT'S"
STUDENTS CLUB.



FIRST FLOOR



· General Scale of Feet ·





Detail of Fascia



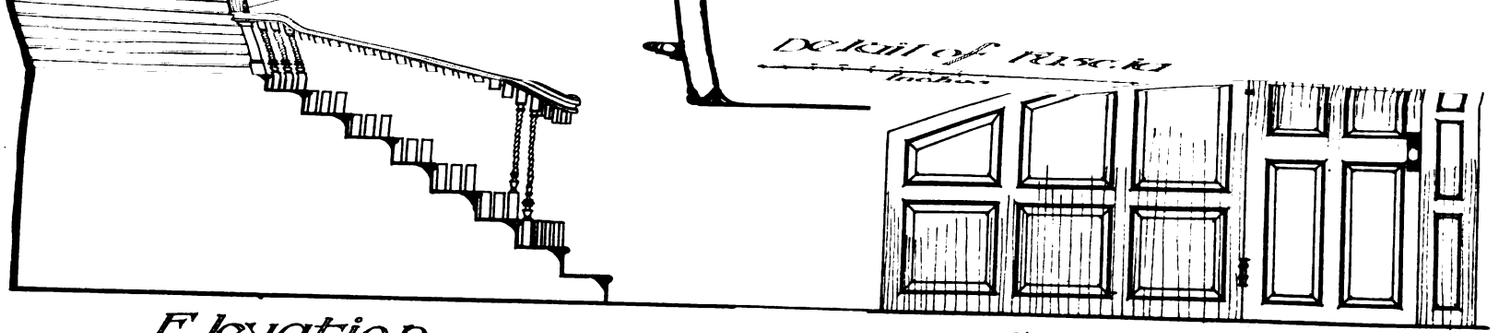






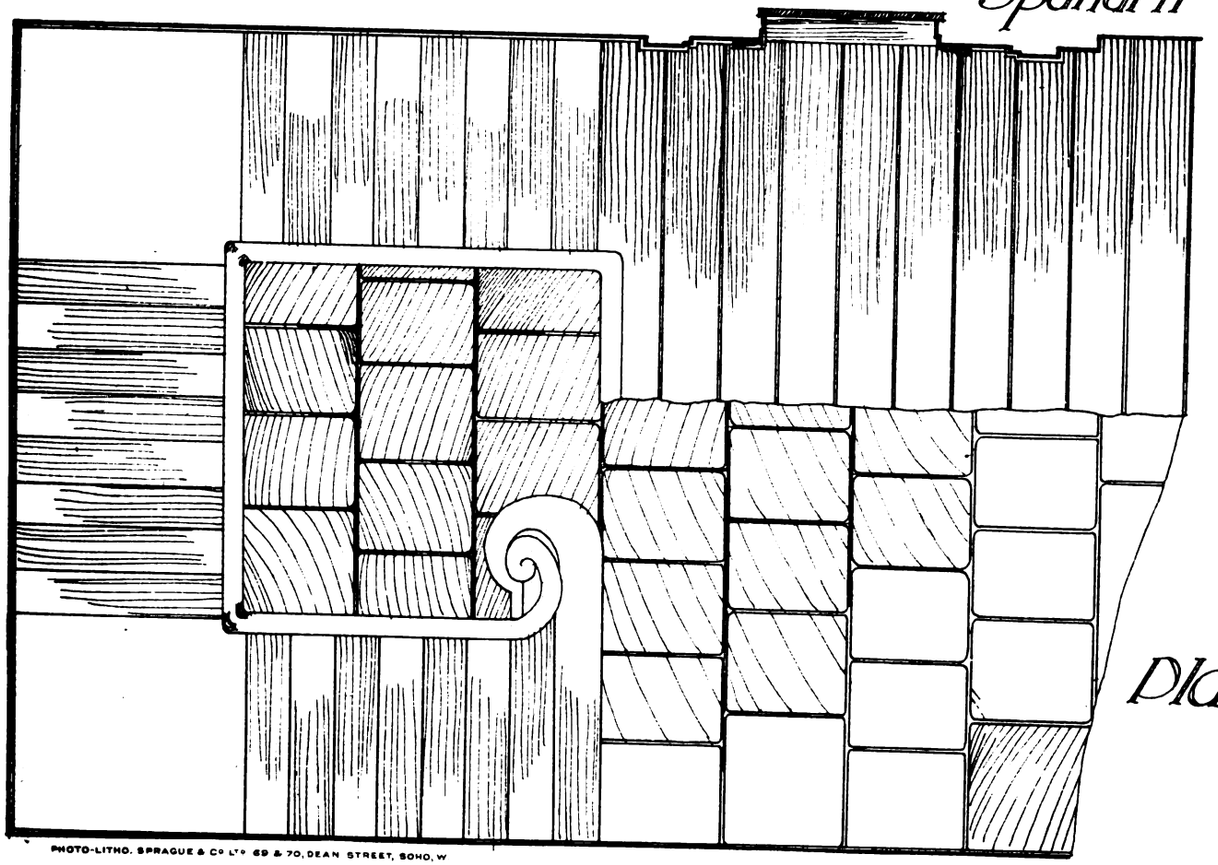


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Elevation

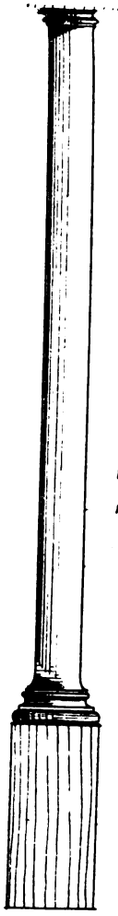
Spandril Framing



Plan



Nosing



Newel



Baluster



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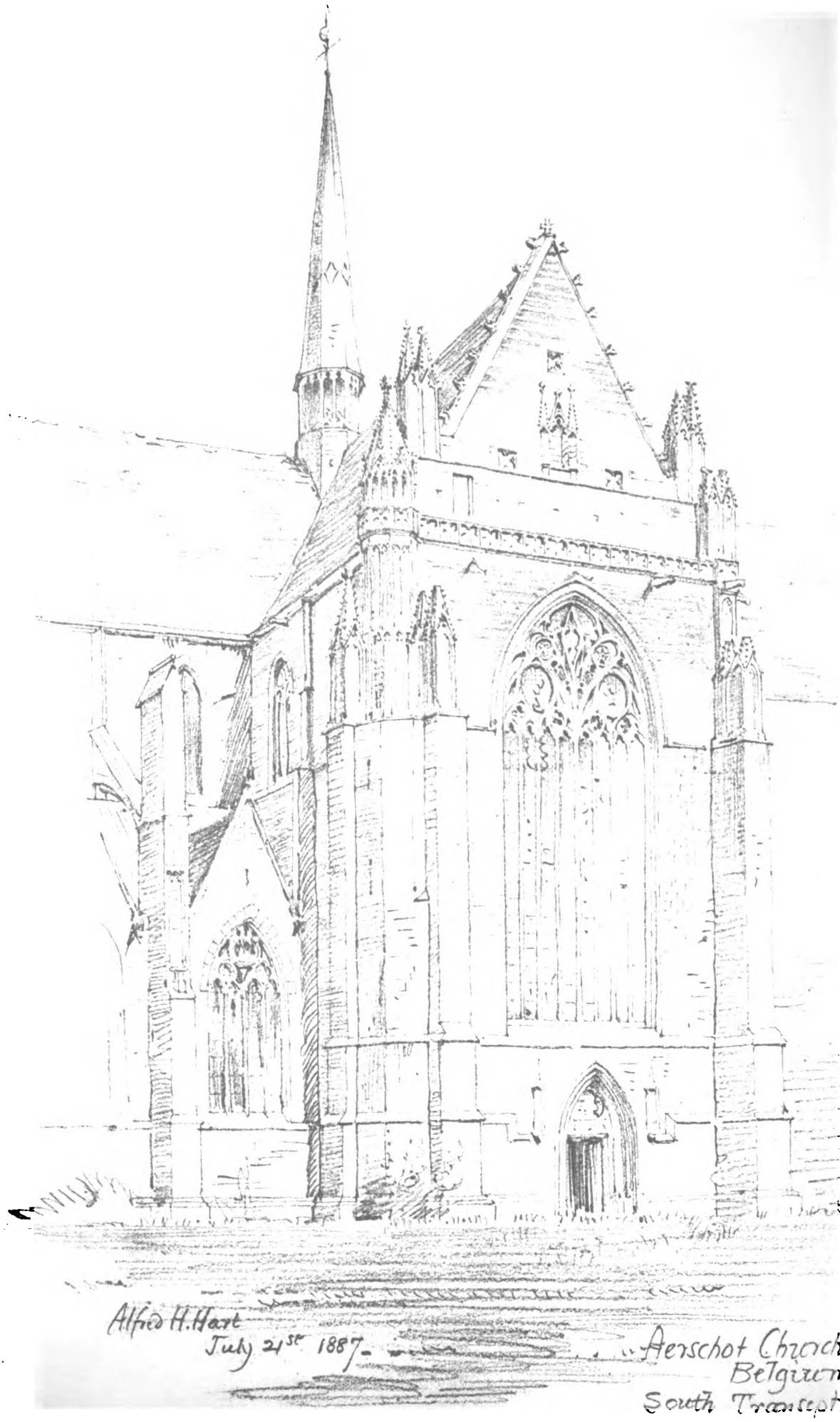
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SKETCHES
By Mr. ALFRED

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Dec 4th 1914.



Alfred H. Hart
July 29th 1887.

S. Germain. Tirlemont.

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BELGIUM.
HART, F.R.I.B.A.

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architecture. There are Ionic columns to the first floor; the second floor is treated as an "attic" addition. The griffin panels above the empty niches are characteristic of the architect.

We like Oxford Circus in its Nash dress, stucco as it is; though Mr. Henry Tanner's south-eastern section is good work, yet we think the proportions of Nash's design are better, and the latter is, of course, more in keeping with the Church of All Souls, which closes in the vista northwards, and which was the work of the same famous architect.

The design for Messrs. D. H. Evans & Co.'s newer premises is absurdly florid in the third floor fenestration; this is the last of the blocks we are dealing with on the north side of the street, but before bringing our day's route to a close we must regard a larger number on the opposite side.

Mr. Delissa Joseph is the architect of Nos. 37 and 39, a Renaissance design in stone, noticeable, but not highly inspired, and with a very disproportionate attic storey; nor do the offices over the Central London stations in this section of the street greatly impress us, though the Bond Street Station block is better than some others; terra-cotta needs deft handling to look well. In Henry Heath's premises this material is, indeed, employed, and to good advantage throughout, but particularly happy is the pictorial "hat-making" fascia, modelled in terra-cotta.

We must not pass by the Richelieu Palace Hotel unnoticed; it is in the Tudor style, and is throughout pleasing with its shallow-shaped bays and bow windows, its "controlling" curly and straight gables, and its decent and restrained ornament.

The National Provincial Bank block at the corner of Harewood Place should not be passed unobserved; the red-brick constructed decoration is a notable feature, the columns and pilasters being artistic to a degree.

Red brick is indeed in high favour for this section of the thoroughfare on its southern side, and we must regard Sir Arthur Blomfield's delightful aggregate of buildings forming St. Saviour's Church for the Deaf and Dumb; the first stone was laid forty-four years ago by the then Prince of Wales, our much-lamented King Edward the Peacemaker.

Hereford Gardens is a recessed terrace of private houses that serve to recall the days when Oxford Street was residential. And next to this, close to the junction with Park Lane, is a new building, the Pavilion Cinema—an effective and expressive erection with a Roman Doric colonnaded entrance, and with an attic storey well set back.

Alas! for the departed glories of John Nash, whose architectural triumphs are so grievously misused at the present day. Regent Street and Oxford Circus are in process of transformation, and the Marble Arch has been transplanted from its original position in front of Buckingham Palace, and through the malign influence of a "street improver" is now a thing of scorn and derision, not through any demerits of its own, but because of its inept surroundings and meaningless want of axiality; it is far more out of place here than is Temple Bar over at Theobald's Park. The gates, beautiful wrought-iron gates, of this nineteenth-century Temple of Janus, are closed in these piping days of peace*; but oh, how we wish we could see them set ajar, indicative perchance of a war waged against the authorities, in order to obtain a recognition of the claims of art and commonsense, that the monumental marble arch should be once again transplanted and set along the axis of Oxford Street and its western continuation, the Bayswater Road.

Of Tyburn we have already spoken, but we think that use might yet be found for the tree, if some of our street reformers were suspended from its cross-arms; we prayerfully await the conjunction of the Time, the Place, and the Man; the idea recalls to memory some quaint lines by Sir Walter Raleigh, with which we may fitly conclude this article:—

Three things there be, that prosper all apace,
And flourish whilst they are asunder far.
But of a day they meet all in a place;
And when they meet, they one another mar.

And these be they:—the wood, the weed, the wag;
The wood is that that makes the gallows-tree;
The weed it is, that strings the hangman's bag;
The wag, my pretty knave, betokens thee.

Now mark, dear boy, whilst these assemble not,
Green is the wood, hemp grows, the wag is wild.
But when they meet it makes the timber rot,
It strings the halter and it chokes the child.

Prosit Omen!

* **This article was written before the outbreak of the European War.**

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BUCKINGHAMSHIRE.

Beaconsfield.—Garage, Gregories Road, for Mr. S. Hamp.

CHESHIRE.

Birkenhead.—Grammar School, Wallasey: extension. Messrs. Willink & Thickness, FF.R.I.B.A., architects, 14 Castle Street, Liverpool.

Crewe.—Offices and three shops, Coppenhall Terrace, for the Prudential Assurance Company, Ltd.

Macclesfield.—Old Modern School premises, Great King Street: alterations. Messrs. Whittaker & Bradburn, architects, 19 King Edward Street. Messrs. G. Roylance & Co., Ltd., contractors, Waters Green (£1,200).

Public elementary school (for 500 places), Lansdowne Street, Hurdsfield.

Northwich.—Working-class houses, Church Walk. Council surveyor.

Sandbach Heath.—Proposed children's home, for Sandbach B.G.

CORNWALL.

Broadoak.—Church School: additions and alterations.

Helston.—Workmen's dwellings, for R.D.C.

CUMBERLAND.

Penrith (near).—Two cottages, Baron Wood, for Sir Francis Ley, Bart.

DERBYSHIRE.

Shardlow.—Workhouse: infirmary, Master's house, and additions and alterations. Mr. J. Sheldon, architect, Darley House, Long Eaton.

DEVON.

Bideford.—Twenty workmen's cottages. Council surveyor.

Shebbear.—Workmen's dwellings, for Torrington R.D.C.

Totnes.—"Tordale": additions and alterations, for B.G.

Woolacombe.—Public elementary school.

DURHAM.

Houghton-le-Spring (near).—Workshop, Mill Pit, for Mr. G. Burnside.

Newbottle.—Joiner's shop, for Mr. J. C. Skelton.

ESSEX.

Aveley.—Eight Council cottages.

Barking.—Secondary school.

Chelmsford.—Shop, Moulsham Street, for Mr. G. T. Bedingfield.

Colchester.—County and District Lunatic Asylum, Mile End: house for senior assistant M.O., and garage for the Medical Superintendent.

Earls Colne.—Public elementary school.

Romford.—Secondary school for 200 boys.

Shoebury.—School, Richmond Avenue: enlargement (£4,400).

GLOUCESTERSHIRE.

Lydney.—Council senior school.

ISLE OF WIGHT.

Cowes.—Aviation, &c., shops, for Messrs. J. S. White & Co.: extension.

Hall and store, Denmark Road, for the Co-operative Society.

KENT.

Ashford.—Council school, Victoria Road.

Beckenham.—County school for girls. Mr. J. Elliman, contractor (£10,164).

Chartham.—Lunatic Asylum: enlargement and improvement (£27,200).

Maidstone.—Police headquarters.

LANCASHIRE.

Accrington.—Fire station, Manchester Road. Borough surveyor.

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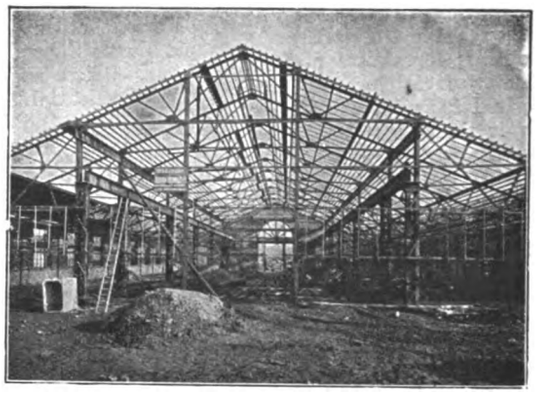
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ENGLAND—*continued.*

LANCASHIRE—*continued.*

Ashton-in-Makerfield.—The "Star" Hotel, Wigan Road, for Messrs. Greenall, Whitley & Co.

Crompton.—Technical school.

Manchester.—Public elementary school, Crowcroft Park.

Rochdale.—Council school, King's Road. Mr. P. W. Hathaway, architect, Town Hall.

LEICESTERSHIRE.

Leicester.—No. 7, Belgrave Gate: alterations. Mr. W. Potter, contractor, New Street, Blaby.

LINCOLNSHIRE.

Brigg.—Council school. Messrs. Scorer & Gamble, AA.R.I.B.A., architects, Bank Street Chambers, Lincoln.

Gosberton.—Cottages (£1,650), for Spalding R.D.C.; also *Pinchbeck.*—Cottages (£2,350).

MIDDLESEX.

Hanwell.—Proposed isolation hospital (£5,000).

MONMOUTHSHIRE.

Blackwood.—Offices, &c., for Trustees Tredegar Branch South Wales Miners' Federation. Mr. D. J. Thomas, architect, High Street.

Fleur-de-Lis.—House and shop, Plas Road, for Mr. D. J. Jones.

Llantarnam.—Infants' Council school.

Pengam.—Workmen's hotel, for Messrs. Marsh, Dermot & Co.

Twynyffald.—Hotel, for Mr. J. Morgan.

NORFOLK.

Norwich.—Infirmary, Bowthorpe Road: extensions. Messrs. Morgan & Buckingham, A.R.I.B.A., architects, 1 Upper King Street.

NOTTINGHAMSHIRE.

Retford.—Borough and district joint hospital, Tiln Road.

SOMERSET.

Bath.—Secondary school.

STAFFORDSHIRE.

Fulford.—Church of England School: alterations.

Norton-in-the-Moors.—Mining Institute and Handicraft Centre.

Penn, Lower.—Proposed tuberculosis sanatorium, for Staffordshire, Wolverhampton, and Dudley Joint Committee.

SURREY.

Epsom.—Two pairs of cottages, Upper Court Road, for Chase's Trustees.

Electric station, cook-houses, baths, &c., for the camp. Messrs. Cropley Bros., Ltd., contractors, High Street.

Tadworth.—Seven cottages, The Hoppety, for Sir G. Riddell.

SUSSEX.

Horsham.—Tuberculosis dispensary and school clinic, Oxford Road. Mr. H. P. Roberts, F.R.I.B.A., Education architect, County Education Offices, Thurloe House, Worthing (£500).

WARWICKSHIRE.

Birmingham.—Proposed public baths, George Arthur Road, Saltley (£19,300).

Church. Mr. E. Reynolds, architect, King's Court, 115 Colmore Row.

Coventry.—Infirmary: alterations, for B.G. Mr. T. F. Tickner, F.R.I.B.A., architect, High Street Chambers.

Nuneaton.—The *Observer* offices and works: alterations Messrs. Mayo & Sons, architects, New Bridge Street. Mr. J. Smith, contractor, Wheat Street.

WORCESTERSHIRE.

Broadway.—Lifford Memorial Hall (£1,880).

Bromsgrove.—Council school, Watt Close. Messrs. J. & A. Brazier, contractors, Worcester Street (£5,460).

Droitwich.—Council cottages. Messrs. Pritchard & Pritchard, architects, Bank Buildings, Kidderminster.

Redditch.—Electricity Works: re-construction (£18,000).

Worcester.—Shire Hall: County offices. Mr. A. V. Rowe, acting County architect.

YORKSHIRE.

Bridlington.—"Crown" Hotel, Quay Road: alterations. Mr. F. Tugwell, A.R.I.B.A., architect, 102 Westborough.

Doncaster.—One hundred and two Council houses at Carr House and Elmfield.

Leeds.—Council school, York Road.

Middlesbrough.—Hospital, for the Tees Port Sanitary Authority.

Stanley.—Two houses, First Avenue, for Mr. W. Bucknill.

WALES.

Bangor.—College: extensions. Mr. R. Lloyd Jones, architect, 14 Market Street, Carnarvon.

Cardiff.—Offices, for the Welsh Insurance Commissioners and Labour Exchange, Cathays Park. Mr. R. J. Allison, A.R.I.B.A., architect, H.M. Office of Works.

Mold.—Proposed Council school.

SCOTLAND.

Dundee.—Garage, Shaftesbury Road, for Mrs. Malcolm.

Edinburgh.—University: Chemistry Department building, High School Yards.

Glasgow.—Tenement of houses, garage, and hall, 75 Stirling Road, for Mr. H. C. M'Dougall.

Tenement of houses, Carleston Street. Mr. J. D. Stewart, builder, 37 West Cumberland Street.

Fitting shop, Polmadie Street, for Messrs. J. H. Carruthers & Co., Ltd.

No. 23 Morrison Street and No. 24 Paterson Street: additions, for the Scottish Co-operative Wholesale Society, Ltd.

Premises, Pollokshaws & Lilybank Roads: re-building, for Messrs. Motherwell & Co., Ltd.

Works, Springfield Road: addition, for Messrs. Riddell & Co.

Greenock.—The "Tontine" Hotel: extensions. Mr. H. Mitchell, architect, 20 Sutherland Street, Helensburgh.

IRELAND.

Armagh.—Central Dispensary. Messrs. Kaye-Parry & Ross, architects, 48 Kildare Street, Dublin.

Londonderry.—National School. Messrs. Robinson & Davidson, architects, 3 Richmond Street.

Rathdonan.—Parochial House. Mr. J. A. Ryan, architect, 8 Michael Street, Waterford.

PATENT SPECIFICATIONS PUBLISHED NOVEMBER 26, 1914

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 23218. Oct. 14, 1913.—R. S. Downe, William Travis, and Brompton and Kensington Accessories Co., Ltd., 254-250 Earl's Court Road, W. Electric cooking apparatus.

25432. Nov. 7, 1913.—J. W. Wilks, 31 St. James' Road, Rounds Green, Oldbury. Fasteners for windows suitable for other purposes.

24972. Nov. 3, 1913.—R. W. Hindhaugh, 6 Lock Road, Ham, Surrey, and Walter Woodrow, 35 Dafforne Road, Upper Tooting, S.W. Hinged gully gratings and frames, manhole covers and frames, and the like.

25158. Nov. 4, 1913.—E. de Magistris, 15 Via Cesare Correnti, Milan. Machine for making reinforced tarred or pasted paper.

26475. Nov. 18, 1913.—Dated under International Convention, Nov. 26, 1912. F. P. V. Germaix, 75 rue des Batignolles, Paris. Supporting piles.

27020. Nov. 24, 1913.—T. E. Fowler, 6 Talbot Road, Alexandra Park, N. Cocks and valves.

29803. Dec. 27, 1913.—James Heaford and E. M. Augustus, 6 Devonshire Road, Blackpool. Method of circulating water in a cylinder for domestic purposes.

26. Jan. 1, 1914.—John Leitch, 180 Cardigan Road, Leeds. Hook for pipes, cables, and the like.

39. Jan. 1, 1914.—F. A. Macdonald, and F. A. Macdonald and Partners, 135 Wellington Street, Glasgow. Reinforced concrete structures.

2946. Feb. 4, 1914.—Dated under International Convention Feb. 5, 1913. J. G. Dommen, Payerne, Switzerland. Bricks, flagstones, and the like.

3093. Feb. 5, 1914.—Aktiebolaget Lux, Lilla Essingen, Stockholm. Means for extinguishing fire.

3950. Feb. 16, 1914.—William Thompson, 58 Church Street, Bilston, Staffs. Tools (or appliances) for use in truing up seats of valve cocks.

4730. Feb. 24, 1914.—Smith & Wellstood, Ltd., and G. A. Ure, Columbian Stove Works, and Bonnybridge Foundry, Bonnybridge, Stirling. Slow combustion stoves.

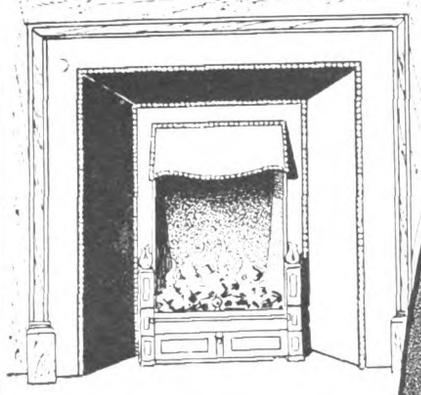
5695. Mar. 6, 1914.—T. W. Woodhouse, Hexthorpe Brass Works, Doncaster. Handles containing index tablets, as used in water taps for lavatories, baths, and the like.

Any of the above specifications may be obtained from J. D. Roots & Co.

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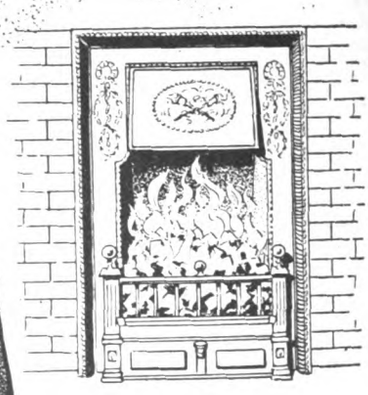
CAN YOU DO THIS WITH YOUR FIREGRATE?



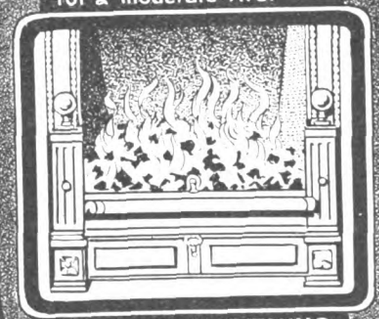


FOR WINTER.
Raise the front bars for a large fire for a very cold day.

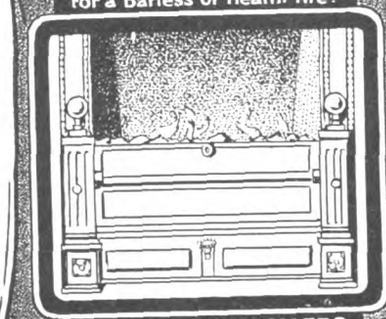




FOR SPRING & AUTUMN.
Partly raise the front bars for a moderate fire.



FOR A CHILLY EVENING.
Lower the front bars entirely for a Barless or Hearth fire.



THE HEAT CONTROLLERS raised, cause the fire to burn for many hours in perfect safety and without attention.

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Is suitable for warming in all weathers—either with 20 degrees of frost, or on the cool evenings of Spring or Autumn. It is instantly convertible from a Barless or Hearth Firegrate (suitable for mild weather) to a powerful Front Bar Firegrate producing sufficient heat for a very cold day, and is a splendid floor warmer.

The heat of the room can be raised or lowered as desired by opening or closing the draught doors.

By raising the Heat Controllers the fire burns for many hours in perfect safety, and without attention.

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Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Sanitation at the Front.

SIR,—Your readers will be interested to hear that orders have just been received from the War Office to send out several sections of the Sanitary Companies for sanitary duties with the Expeditionary Force. These will absorb practically the whole of the Imperial Service Company and a half of the 1st Reserve Company, rendering it necessary forthwith to recruit additional men to fill the vacancies and to furnish the further sections which will be sent to the Front later on. These new sections will afford opportunities for promotion to non-commissioned rank to men with good sanitary qualifications.

A large number of your readers have already come forward in response to my previous appeals, and I trust that the prospect of foreign service and the official recognition now received of the value of the Sanitary Companies will stimulate many more to do so.

Intending recruits should apply forthwith either personally or by letter to O.C. Depôt, Medical Units, 2nd London Division, Duke of York's Headquarters, Chelsea, S.W.—Yours fatihfully,

ARTHUR J. MARTIN,
Capt. R.A.M.C., T.,
O.C. 2nd (1st Reserve)
London Sanitary Co.

Duke of York's Headquarters, Chelsea, S.W.:
December 1, 1914.

State Loans for Housing: the New Arrangements.

SIR,—In view of the increased cost of building and the higher rates of interest on building capital, the Treasury has agreed to make a capital grant and to approve of large advances of money to local authorities and public utility societies for the purpose of providing dwelling accommodation for the working classes. This concession is of the greatest importance to South Wales, and should greatly stimulate building activity by approved agencies. A comparison of the old arrangements with those now made possible may be of interest to your readers.

(1) Local authorities before the war could borrow money for housing purposes for periods of 60 years for building and 80 years for land at 3½ per cent. By a Treasury minute, dated September 10, the rate of interest was advanced to 4 per cent. The new arrangement involves an increase of the rate of interest to 4¼ per cent.; but as few local authorities would consider schemes on this financial basis, the Treasury have apparently agreed to make a free capital grant of 10 per cent. of the approved building cost to local authorities. A concrete instance will make the position clear. Suppose a dwelling costs £200. The Government will make a free grant of £20 towards the cost of building. The local authority will borrow the remainder—that is, £180—for the periods mentioned. It is doubtful whether the local authorities will even now be in such a favourable position as they were before the war, but they are certainly better situated than they have been since September 10.

(2) The position of authorised societies limiting their dividends to 5 per cent. is decidedly improved. Before the war such societies were able to obtain loans from the Public Works Loans Board up to two-thirds of the value of their properties at 3½ and 3¾ per cent. for periods of 30 or 40 years respectively. These rates were increased in September to 4 and 4¼ per cent. The new arrangement applies to advances made by the Local Government Board only, and is as follows:—10 per cent. capital grant and 80 per cent. loan for 60 years repayable by an annuity of 5 per cent. The arrangement works as follows on a dwelling valued by the Government authorities at £200:—£20 of the necessary amount is provided locally, £20 is a donation from the State, and the remaining £160 is advanced by the Government on loan for 60 years. The rate of interest on the loan is 4¼ per cent., and an additional sum of 15*s.* per cent. has to be set apart to a sinking fund for the redemption of the loan.

The new arrangements are for schemes approved by the Local Government Board under Housing (No. 2) Act, 1914. The Public Works Loans Board still make advances to approved societies in accordance with powers conferred upon them by the Housing and Town Planning Act, 1909, on the old terms, but at the increased rates of interest. The reason for the two sets of financing arrangements may be stated thus. The new system is to apply only for the purpose of mitigating or preventing unemployment in the building trades; the old system applies in areas where little or no unemployment has occurred or is anticipated. There are already indications of a coming period of depression in the building trades in South Wales, and the new facilities will probably be applicable to this area within a very few months. This association, therefore, strongly urges that immediate action should be taken both by local authorities and by promoters of housing societies. Bodies of working men may by co-operative action cater for their own housing needs and the formation of co-operative garden village societies is strongly recommended. I shall be glad to render assistance to any people interested in the formation of such societies.

I am, &c.,

EDGAR L. CHAPPELL,
Secretary South Wales Garden Cities and Town Planning Association.
3 Pembroke Terrace, Cardiff.

Painters in War Time.

SIR,—It is estimated that there are at the present time as many as 40 per cent. of the London operative painters out of work, a percentage, it need hardly be said, far in excess of the normal for the time of year.

Much distress exists among this class in consquence, and unless work is soon forthcoming the distress must grow rapidly.

Those who control property, whether as owners, architects, solicitors, or estate agents, as well as public and parochial bodies, can render valuable assistance in alleviating this distress without trespassing upon their claims for charity if they will forthwith give orders for such painting and decorating as may be required.

By doing this they will not only render assistance in time of need of a very practical kind, but will themselves directly benefit by the low prices which most firms employing painters are willing to accept at this juncture in order to keep their men in employment.

Much of the work which would under ordinary circumstances have been given out is of a decorative character, and is therefore often regarded as being of the nature of a luxury. But such a luxury, which means the beautifying of the home or rendering it more hygienic, might well be proceeded with, especially when the effect of withholding it is to force unemployment upon a very deserving class. Entirely apart from decorative work there is a vast amount of painting which is urgently required for purely protective purposes. To neglect having it done means the promotion of decay of the building, with a subsequent heavy loss to the owner.

The prices of the most important products used by painters—such as white lead, linseed oil, turpentine, and paper hangings—are practically the same as they were at this time last year. The fact that master painters, in their desire to keep their men employed, are willing to cut their margin of profit to the extreme limit means in effect that the cost of painting and decorating work at the present time is as low, or even lower, than usual.

The idea that autumn and winter are not good times for painting operations is entirely erroneous. All inside work may be carried out quite as safely at those times, while outside work is just as durable provided that it be temporarily suspended on foggy or wet days. Indeed, for some reasons the conditions are more favourable, as, for instance, in the absence of clouds of dust and sudden showers which occur so frequently in hot weather.

It is certain that there is at the present time many hundreds of thousands of pounds' worth of painting and decorating work which might well be done.

By ordering it to be proceeded with immediately property owners would do much good to the community, and in addition would be directly benefited themselves.—Yours truly, for and on behalf of

THE LONDON ASSOCIATION OF MASTER DECORATORS,
A. DAVIDSON, Secretary.
92 Queen Victoria Street, London, E.C.

Crystal Palace School of Engineering.

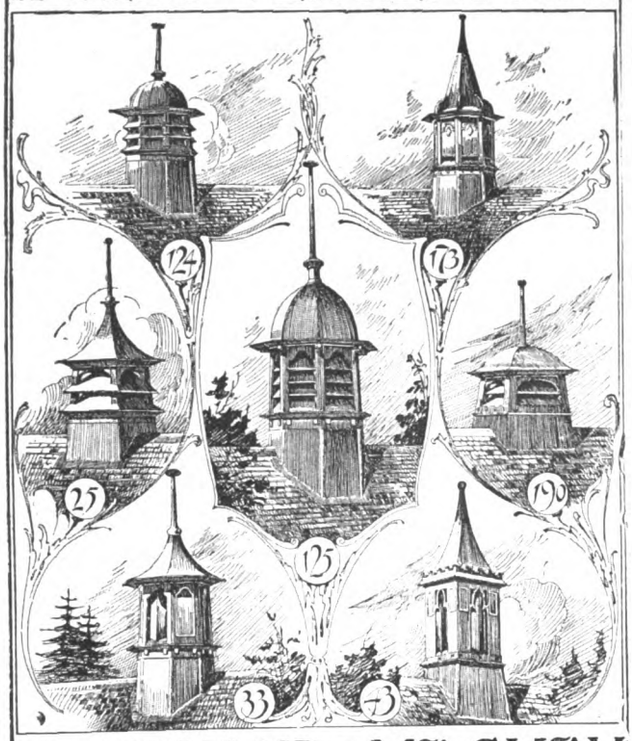
SIR,—Allow me to inform you that the present occupation by the Admiralty of the Crystal Palace does not in any way affect this school. Our work, which is now entering its forty-third year, is being carried on as usual, and the school is being developed and extended under the auspices of the trustees.—I remain, yours faithfully,

J. W. WILSON,
Principal.

School of Practical Engineering,
Crystal Palace, S.E.: Nov. 26th, 1914.

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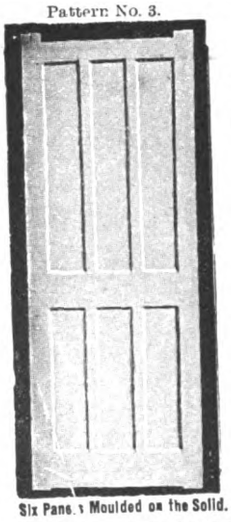
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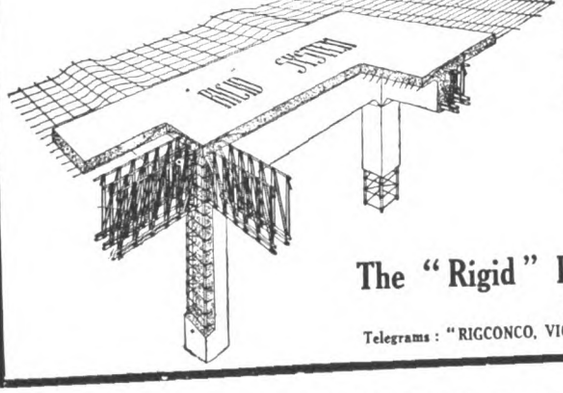
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THE ARCHITECT

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FORTHCOMING EVENTS.

Monday, December 14.

Royal Institute of British Architects: Paper entitled "The Work of the late John Belcher, R.A.," by Mr. J. J. Jones, F.R.I.B.A., at 8 P.M.

Tuesday, December 15.

Institution of Civil Engineers: Resumed discussion on three papers read on December 2.

Wednesday, December 16.

Royal Society of Arts: Paper entitled "Testing Pigments for Permanence of Colour," by Sir William Abney, at 8 P.M.

Thursday, December 17.

Royal Institute of British Architects: Paper entitled "Civic Survey Work," by Mr. H. V. Lanchester, V.P.R.I.B.A., at 8 P.M.

Concrete Institute: Resumed discussion on Paper entitled "Shear and Problems Arising Therefrom," at 7.30 P.M.

THE MASTER-CARVER.

HEAD and shoulders above not only his contemporaries but of his fellow-craftsmen in all ages, stands, in the estimation at least of the British public, Grinling Gibbons. It is desirable that we should understand whence comes this estimation, and to do so we must give our attention to the position that Gibbons occupied, as well as to the character of his work. For the high popular estimation of an artist does not necessarily imply intrinsic superiority to his fellows. In the case of Gibbons we may put it shortly that he became the fashion and set the fashion.

For one so famous the records of his life and work are remarkably scanty. A few entries in Evelyn's Diary concerning him, two or three letters and agreements signed by him, bills sent in by, and payments made to, him for work done at the royal palaces and at St. Paul's Cathedral—such is nearly all the written matter, dating from his time, that has come down to us. This and his authenticated surviving work in wood, marble, and stone, forms the sum total of the absolutely reliable data that we have on which to found an account of his life and an estimate of his art. After his death quasi-authoritative information began to appear, but it is often contradictory and fragmentary. The fame of Grinling Gibbons was then established, and much work was ascribed to him that he never saw and with which he had nothing to do.

It is not even certain where he was born, and whether he was an Englishman or not; but the balance of probability seems to be in favour of the story that he was born in Holland of English parents, and lived for many of his youthful years in his native country. Whatever may be his true early history, it appears undoubted that his active career in this country dates from his discovery as a skilled artist by Evelyn in 1671. This patron introduced the young carver to the King and the leading architects of the day, and from that date till he reached old age he retained the position of master-carver.

One source of not necessarily accurate information respecting Gibbons, Vertue's Note-books, gives us a true view of the reason for the master-carver's reputation. The writer of a note included in Vertue's 1731 book, whose name was Stoakes and whom Walpole sets down as "a relative of the Stones," tells us: "Grinling Gibbons carver (his father a Dutchman) he was born in Spur ally in the Strand he afterwards liv^{d} in Bel Savage on Ludgate Hill & there he carv^{d} a flower pot the flowers of light wood so thin & fine that the coaches passing by made them shake surprisingly. Hu. May Controller of the Works was much his Friend & promoted him. Born 1646."

From this quotation we see the source of the master's popular reputation. The carved flowers over his door in La Belle Sauvage Yard did not attract attention because they were an apt and proper portion of his doorway, taken as an architectural entity, but because they looked so fragile, so like a bunch of the real thing picked out of the garden bed, that people fancied that they shook when the coaches rolled by. Gibbons' work was, in fact, cleverly deceptive rather than honestly convincing. The whole of his marvellous skill of hand and eye was given over to exact imitation of natural forms, and the more the material in which he wrought lost its own character and took over that of the object it simulated, the greater the craftsman's triumph. In this Gibbons was in touch with and epitomised the feeling of his time. It is not really for his high attainment as a designer, and for his true taste in arrangement, that his contemporaries praised him—"the art arrives even to deception," says Horace Walpole—but for his skill in making things appear what they were not. His "studious exactness" wins Evelyn's admiration. His exceeding ability in "giving to wood the loose and airy lightness of flowers" is the subject of praise from his admirers.

But the source of popular admiration—which, rightly understood, is a defect of his work as offending against the real canons of art—does not prevent our recognition of Gibbons as an artist and master of decoration. He possessed a marvellous decorative sense, and gives the impression that without error or effort he could always fill a given space in an absolutely satisfying manner. With all the freedom and individuality which he allowed each item of his grouping to assume, with all his bold projection and deep undercutting, he completely maintained the spirit of balance and discipline. Of all decorative artists he evidently had the greatest knowledge of plant life. It is this, more than any other quality, which gives to Grinling Gibbons' work its individuality. He knew by combined intuition and study the anatomy, the poise, the movement of plant life, and was thus able with a quick and sure touch to reproduce it in all its tender complexity and crisp delicacy.

The uniform manifestation of individuality in his work indicates that, although we find him working under different architects, under Hugh May at Windsor and at Cassiobury, under Sir Christopher Wren at St. Paul's and Hampton Court, he did not work as a mere craftsman, carrying out carefully drawn designs prepared for him. Had that been the case, although in technique his work might have been the same everywhere, it would have differed in composition according to the taste of the architects under whom he worked. He must,

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therefore, be given credit, not only as a surpassingly clever executant, but as an original designer.

It is in this capacity that his influence on English architecture and decoration is of paramount interest. In early English Renaissance work, under the guidance and example of Inigo Jones, carved decoration was ever of strictly conventional type, based upon Italian, and recognising, we might almost say, no other species of foliage than that of the acanthus. Probably influenced by the Dutch surroundings of his early years, the skill and devotion of the Dutch painters to meticulous accuracy in the portrayal of still life, Gibbons imbibed a feeling for intensely naturalistic presentation of form and introduced it into English architecture, where its enthusiastic reception by the leaders of fashion speedily established the manner of Grinling Gibbons as a regular style of decoration, which was undoubtedly caught up and followed more or less successfully by others of his contemporaries. He was the master; but there were many who, if not pupils, were certainly followers of the Gibbons style. The work of these latter has been only too frequently attributed to Grinling Gibbons himself, and the many capable wood-carvers who were his contemporaries were ignored. The same thing occurred later with the renowned furniture and cabinet makers—Chippendale, Sheraton, and Hepplewhite. William Emmett and William Morgan at Chelsea Hospital, and Samuel Watson at Chatsworth, are examples of the contemporaries of Gibbons of whose existence and work there exist documentary evidence.

But there still remain many examples of carved work, in the Grinling Gibbons style, of which no conclusive documentary evidence exists, and which can only be ascribed to the master on putative resemblance or distinguished by careful study of undoubted examples of the work of Gibbons and of his known contemporaries. As an aid to such study no more useful guide has appeared than the monograph* on "Grinling Gibbons and the Woodwork of his Age (1648-1720)," written by Mr. H. Avray Tipping, M.A., F.S.A., and forming one of the series of volumes in the "Country Life" Library of Architectural Monographs. In this will be found learned and acute criticism, together with exquisite illustrations, of the character to which *Country Life* has accustomed us. Mr. Tipping not only tells us what is known of Grinling Gibbons, but also puts before us other examples of the woodwork of his age, which may enable us to give due credit to other able craftsmen who flourished in England and enriched its store of artistic treasures from the days of Charles II. to those of Queen Anne.

"THE ARCHITECT" STUDENTS' SKETCHING AND MEASURING CLUB.

The study of a mediæval five-light tracery window has several points of great value to a young architectural student, quite independently of any consideration as to whether he may or may not in his future career be called upon to design a window in Gothic fashion.

The treatment of a tracery window is valuable as a study of form, but it also has value as a study of intricate construction and as an object-lesson in the use of variously accentuated planes, a matter that is apt to escape the notice of students who confine themselves to classic models.

Mr. S. E. Whitaker has selected an excellently designed fourteenth-century Decorated window of through arch type with central glass plane. The construction is properly studied, and the geometrical drawing fairly executed. In figure work more practice will no doubt give the author more skill.

"Improver" has also chosen a well designed window of later date, which is an example of the use of interpenetrating forms, as well as of primary and secondary planes. This is from Brancepeth Church, Durham, and is interesting in its marks of transition from Decorated to Perpendicular feeling.

"Student" has a window from St. Peter's Church, Derby, which is completely Perpendicular. The study is deficient in that all masonry joints are omitted. These are absolutely essential to a right comprehension of Gothic work generally, and tracery in particular. Large, preferably full-size, sections of mouldings should also be drawn.

"Toga" has measured and drawn one of the many existing examples of reticulated tracery windows, which were all the rage in the first quarter of the fourteenth century. This particular example is taken from the Church of St. Mary, Morpeth. Our contributor has rather unfortunately endeavoured to introduce shading according to the rules of sciography. This is not usually attempted in the delineation of Gothic work by reason of the infinite labour involved from the intricacy of the shadows cast, and "Toga" has shirked the necessary labour, so that his drawing is to this extent inaccurate as well as unpleasing.

Mr. B. Fraser tells us that his window from Chester Cathedral has been partially restored. This is evident, as it was certainly never designed as it is now drawn, although of late date. The jointing of the masonry in the tracery should have been shown.

"Ebor" shows us a fine example of true Perpendicular work from Claypole Church, South Lincolnshire, and has made an excellent study, with the masonry construction carefully worked out and full-size details.

We award prizes of one guinea to "Ebor," and half-a-guinea each to Mr. S. E. Whitaker and "Improver."

NOTES AND COMMENTS.

The influence of the war upon the building trade is in part shown by the action of various Government departments that influence the expenditure of public money. The Local Government Board declines for the present to sanction the borrowing of £18,000 which would be required for the erection of a new Town Hall at Middleton, suggesting that the scheme "might well be deferred for a time." This scheme, it will be remembered, formed the subject of an open architectural competition recently decided. As for the need of a new Town Hall of some kind there is scarcely room for dispute, and the plans provisionally adopted had the almost unanimous backing of the Town Council. The present Town Hall, a particularly mean-looking building in a back street, which no stranger would ever suspect of its importance, is over fifty years old. Part of it was adapted from an old fire station, and the main wing was originally built for the Town's Commissioners. In every department the staff accommodation is inadequate, eight or nine clerks, from two or three different departments, being crowded into one small room, while the Public Health and Education departments have to put up with makeshift quarters away from the Town Hall altogether. Most of the Corporation committees meet in the evening, but when, as sometimes happens, there is a meeting earlier in the day, the committee room has first to be cleared of three or four clerks, who, having nowhere else to work, have generally to remain idle until the committee meeting is over.

The Treasury has been approached on behalf of a housing loan for the Corporation of Waterford, and in reply has given directions to the Board of Works to restrict their issues in the first instance to works of urgency—giving a preference to those which would relieve or mitigate unemployment—and only to make issue for other purposes if they were satisfied that the money could be found without impairing the margin required for the more urgent services.

On the other hand, we note that at a Local Government Board inquiry into an application by the Criccieth

* *Grinling Gibbons and the Woodwork of his Age (1648-1720).* H. Avray Tipping, M.A., F.S.A. (London: *Country Life* and George Newnes, Ltd. New York: Charle Scribner's Sons. Quarter buckram, 25*s.* net; half-morocco, 35*s.* net.)

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Council to build seventeen workmen's houses reference was made to the important concessions of the Treasury in aid of housing and unemployment. The Welsh Housing Association, who propounded the Criccieth scheme, made certain inquiries of the Chancellor of the Exchequer respecting his statement in the House of Commons on November 24, and Mr. St. John Hancock, architect of the Welsh Housing Association, received a telegram from the Chancellor's secretary reaffirming that the concessions were to apply only to schemes in areas where unemployment in the building trade, owing to the war, is exceptional and insistent. The 10 per cent. grant towards housing schemes will be in respect of all works in schemes approved by the Treasury and the Local Government Board, and not necessarily to the structure only.

The London County Council's Education Committee has come to the conclusion that as little as practicable of the amount of £1,000,000, agreed upon between the Board of Education and the Council as the amount to be expended on the "Forty and Forty-eight Scheme" during the three years beginning on April 1 next, should be expended on the purchase of sites, and that any reduction of expenditure which could be effected by postponing the purchase of sites should be made good by an increase in the contemplated expenditure on building work.

It is obvious that the spending authorities have received the word to reduce expenditure on building except in places where unemployment in the building trade is exceptional and insistent. At present it cannot be said to be on the whole in this condition. There is plenty of work going on, partly in fulfilment of Government requirements occasioned by the war, partly in the prosecution of schemes matured before the war commenced. The war loan is an index of the reasons why Government does not encourage expenditure immediately on new schemes. They now have to borrow at 4 per cent. Formerly they obtained money for housing and other building schemes at 3½ per cent., or less. The recently issued war loan is probably only the first of a series, and the Government naturally do not want competitors in the money loan market.

There is, however, another side to the question. The 350 millions when spent on the war is not all lost. It will have largely gone into the pockets of wage-earners and the profits of their employers. These will have money to spend, and part will be spent in building. It is even likely that a larger part than usual will be so spent in our own country, because there will be less opportunity and less temptation to spend or invest it abroad. It will take some little time for the profits made and the extra wages earned to filter through to the building trade. The position is very similar to that of a trade boom. When trade is booming the building trade is often slack. After the boom we begin to get busy helping our clients and customers to spend their profits. So it will be undoubtedly in the present instance, with this difference, that the war will cause dislocation in the stream of expenditure. Therefore our manufacturers and merchants in the building trade must not expect business to follow the old channels, but they must turn their attention to fresh ones, and they must let the architects know that they are ready to adapt their output to fresh conditions.

Our contemporary, the *City Press*, scoffs at the London Society's excellent scheme for "a development plan of Greater London." Thus says the critic: "In what way the eventual cost is to be met we are not told. Theorists are ever thus. Ways and means are no consideration of theirs. Nothing so hopelessly mundane comes within their purview." This but emphasises the truth of the lesson we have repeatedly enforced in our columns on town-planning experts that town-planning is not merely a matter of improved communications, of vistas and fine effects, of so many houses to the acre, of "amenities." It must embrace finance. The ways and means must have consideration. Never mind if the development of Greater London costs 350 millions. It can be carried out if it will pay 4 per cent.

The German Government's declaration of timber as contraband of war promises to hit Sweden more severely than anyone else, and in an interview with a reporter of *The Globe* the Secretary of the Swedish Chamber of Commerce in London thus summed up his own personal view of the situation created by Germany having declared wood contraband:—

"Sweden's revenue from the export of timber alone is over ten millions sterling a year, and if the war continues much longer the embargo will be a very grave matter. As to the shortage here, I estimate that from the time of the prohibition until now 380,000 standards would be exported from Sweden, 30 per cent. of which would go to England, or about 114,000 standards. Every day that passes without any relaxation of Germany's declaration renders the Norwegian ports more liable to be frozen up.

"It has been suggested that if there is anything like a serious shortage here the wood should be sent across by rail to such Norwegian ports as Drontheim and Navik. That would mean a greatly increased price, but I suppose it would be paid if absolutely necessary.

"In the representations which are being made to Germany against keeping wood on the list of contraband, I have no doubt that the Swedish authorities will have in their minds the manner in which they were met by England in regard to ore. An excellent impression was caused in Sweden by this country relaxing her declaration in such a way as to allow certain kinds of ore to be exported."

Germany desires to keep Sweden as a friendly neutral, and we may expect that Sweden's injury will not be long maintained. In the meantime, in order to facilitate the despatch of Swedish cargoes of wood *via* ports on the West Coast of Sweden, principally Gothenburg, and probably also Norwegian ports, both the State and the private railways have already made substantial concessions as regards freight charges. The Swedish *Timber Trades Journal* states that the British Government has invited a number of leading English timber importers' agents to discuss measures for obtaining regular supplies of timber.

The view of the trade is shown by the market report of Messrs. Denny, Mott and Dickson, who state that the unexpected action of the German Government in declaring all wood goods as contraband, and thus putting a stop to further supplies from the Baltic, has, of course, had a very considerable effect on the market for spot goods, but to what extent it will cause prices to further advance it is difficult to say at present. The demand was well maintained throughout November, and shows no falling off, and with all further requirements having to be supplied from stock, except for the few remaining cargoes still to arrive from the White Sea and possible shipments from Norway, values must certainly improve. Shipments, fortunately, have been considerable during the last few weeks, both from the White Sea and the Baltic, so that stocks must have increased in spite of the heavy consumption, and there is no need to consider the possibilities of a timber famine. It is certainly to be hoped that prices will not be unduly forced up, as any such course is bound eventually to react detrimentally to importers.

WAR ITEMS.

IN connection with the scheme which the Board of Trade have initiated for assisting British manufacturers and traders to take advantage of the opportunity afforded by the war for securing trade formerly in the hands of German and Austrian or Hungarian rivals, the following further information has been received at the Commercial Intelligence Branch of the Board of Trade:—

Canada (New Brunswick).—The Imperial Trade Correspondent at St. John reports, under date November 2, that, generally speaking, trade conditions and

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prospects in the Province of New Brunswick are satisfactory. Wholesale merchants in various lines of business state that there is a good demand for general merchandise, and there is no difficulty in the collection of accounts. Industries have not been seriously affected by the war, and the outlook for farmers is excellent.

Italy.—According to information received from his Majesty's Consul at Palermo, it is essential that British manufacturers and merchants desirous of capturing trade in Sicily hitherto in the hands of their German rivals should supply cheap goods, be content with small orders, and study thoroughly the requirements of the market. It is asserted that in many cases United Kingdom firms are unwilling to quote in Italian currency and metric weights and measures, to correspond in Italian, to grant credit, or to send out Italian-speaking travellers.

Nicaragua.—His Majesty's Consul at Managua reports (October 3) that, owing to the disturbed financial condition of Nicaragua, British firms would be well advised to defer opening up trade in that country until the financial situation has improved. Although the present period of acute financial depression is not a favourable one for endeavouring to supplant German manufactures on the Nicaraguan market, H.M. Consul states that when commerce revives an effort might be made by United Kingdom manufacturers to obtain a firm footing in the supply of certain classes of goods in which German firms have captured the market with cheaper and more showy but less durable articles. Among the principal articles which have hitherto been supplied to Nicaragua by Germany are enamelled ware, blankets, hardware, paper, hosiery, perfumes, druggists' sundries, toys and dolls, beer and aerated waters.

Brazil.—His Majesty's Consul at Sao Paulo reports, under date October 19, that the British merchants in that town whom he has approached have not lost sight of the fact that the present state of affairs in Europe should facilitate the introduction of British goods at the expense of German manufactures. They point out, however, that, owing to disturbed financial conditions in Brazil, it would be unwise at present to undertake an active campaign with this object. Money is scarce, and merchants do not feel disposed to sell goods on long terms of payment. German firms have been successful largely because they have sold a cheap class of article, which is readily bought by the local merchants, and have granted easy terms of payment, 30, 60, 90, and 120 days, and even six months, being allowed.

All questions relating to the purchase and export of food supplies, munitions of war, and field equipment for the French, Belgian, Russian, and Serbian Governments are now dealt with by the International Commission for the Purchase of Supplies (Commission Internationale de Ravitaillement). The Executive office of this Commission, and the offices of the French, Belgian, and Serbian delegates thereon, are at India House, Kingsway, W.C., while the offices of the Russian delegates are temporarily at 192 Cromwell Road, S.W.

Application for permission to export goods the export of which from the United Kingdom is prohibited, should, if such goods are required by the Allied Governments or their accredited agents, be addressed in writing to the Commission. The Commission will only consider such applications if they are accompanied by documentary evidence as to their official origin. Applications which are unsupported by such evidence, or applications in respect of goods which are ordered by private firms for purely industrial purposes, must be made in the ordinary manner to the Commissioners of Customs and Excise, Lower Thames Street, E.C.

Owing to the possible shortage of certain classes of goods for which there is a great demand, it may be found impracticable to make any exception to the prohibition against the export of such goods. Consequently, merchants and manufacturers wishing to supply goods for the use of any of the Allied Governments are warned not to enter into any negotiations until they have ascertained from the Commission Internationale de Ravitaillement that permission for the export of such goods will be granted. Having granted permission to export, the Commission will make the necessary arrangements direct with the Customs authorities for the clearance of the goods, upon receiving from the manufacturer or merchant at least forty-eight hours' notice of each shipment, together with the following particulars:—(1) Nature and quantity of goods to be shipped, (2) name and address of consignor, (3) name and address of consignee, (4) port and approximate date of shipment, (5) ship or line by which shipment is to be made, (6) port of discharge, (7) marks on packages, if any.

COMPETITION NEWS.

DUMFRIES.—Members and Licentiates of the R.I.B.A. are advised that the conditions of the Workmen's Houses Competition, Milldamhead, are not in accordance with the Institute regulations for architectural competitions, and the Competitions Committee are in correspondence with the promoters with a view to their amendment. Members of the Society of Architects are advised that the Competitions Committee are negotiating with the promoters of the above competition with a view to securing amendments to the conditions which at present are not approved by the Society.

OXFORD.—The Corporation invite local architects to submit designs before January 11 for the erection of cottages in Upper Fisher Row.

WALTHAMSTOW.—The Urban District Council have under consideration the proposed erection of houses for the working classes at a cost of £16,000. The Council invite applications from architects who are willing to undertake the preparation of plans and supervision of the erection of such houses.

ILLUSTRATIONS.

SUMMER HOUSE, MOUNT MELVILLE, ST. ANDREWS.

THIS summer house is erected in Cullaloe stone with a copper dome, and stands upon an artificial mound, which was made some years ago from the excavated earth from the foundations of the house, and which has been planted with trees and allowed to settle before the weight was put upon it. It has fourteen columns, being arranged on a seven-sided plan, which form was adopted owing to the fact that it is faced by two walks, the axes of which roughly correspond to two sides of a heptagon.

Messrs. J. H. White & Sons, of St. Andrews, are the contractors for the principal part of the work.

The architect is Mr. Paul Waterhouse, M.A., F.R.I.B.A.

"KNODISHALL," OXSHOTT.

THIS house stands well back from the road on a low terrace. The central portion was built some years ago; the wings have been added later, the intention being to complete the south wing and restore the original symmetry of elevation. The walls are of brick rough cast and the roof of hand-made tiles. The architect is Mr. John Borrowman, A.R.I.B.A.

TOURNAI.

AMONGST the old towns of Belgium not the least interesting is Tournai, Samuel Prout's drawing of which city, as included in "Continental Sketches," we reproduce this week.

MR. H. B. LEIGHTON, A.R.I.B.A., has been appointed to the post of Junior Lecturer and Demonstrator in the Department of Architecture, Sheffield University.

AN exhibition of drawings forming part of the London Section of Professor Geddes' collection will be opened at the R.I.B.A. Galleries on Tuesday, December 15, at 4 P.M. These drawings have been prepared and collected in order to replace a portion of Professor Geddes' collection lost by the sinking of the *Clan Grant*. Mr. H. V. Lanchester, Vice-President R.I.B.A., will give a brief paper on Civic Survey Work, illustrated by these drawings, on Thursday, December 17, at 8 o'clock. The exhibition will remain open till December 19.

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THE ARCHITECTURAL ASSOCIATION.

AN ordinary general meeting of the Architectural Association was held on Monday last, December 7. Mr. H. Austen Hall, acting president, occupied the chair.

Mr. G. Leonard Elkington proposed the adoption of the Council's report and balance sheet for session 1913-14, as published in the A.A. Brown Book. The motion was seconded by Mr. H. M. Fletcher, and carried *nem. con.*

Mr. Austen Hall nominated Mr. Philip E. Webb to fill the vacancy on the Council.

Mr. Fletcher (hon. secretary) announced two nominations to ordinary membership, and one to country membership. He also announced the election of twenty-seven ordinary members and fifteen country members.

Mr. Aymer Vallance, M.A., F.S.A., then gave a well-written and well-illustrated account of "Rheims Cathedral." He prefaced his paper by exhibiting views of the church of St. Remi, which was built prior to the cathedral, and showed the architectural progress made in the latter building. St. Remi also exemplified another difference in that its plan revealed the great influence exercised by the presence of precious relics. Here the body of St. Remi (*anglice* Remigius) occupied the great shrine behind the high altar in the same way as did that of St. Thomas à Becket at Canterbury, of St. Richard of Chichester at Chichester, and of King Edward the Confessor at Westminster. Although Rheims was, as it were, the Metropolitan church of the French hierarchy, and the place of coronation of the French monarchy, yet it was not a pilgrimage church at any time in the Middle Ages. A saint's body in a church attracted pilgrims, whose offerings produced a well-filled purse for the exchequer and provided the wherewithal for the upkeep and extension of the fabric. People failed generally to realise how many great churches owed their large buildings to this fact. The Chapter of Rheims did not possess this advantage. The explanation of the beginning and completion of the cathedral in the short space of eighty-five years was that it became the very shrine and token of the ideals and aspirations of the French nation. As the sovereign was the head of the French people and embodied their national unity, so this coronation church was the shrine and focus of the French national spirit.

The existing church is not the first to occupy the site; but only slight remains of its predecessor, which was burnt down in 1211, have survived. Preparations for rebuilding were promptly begun, and the first stone of the new cathedral was laid in May 1212 by Archbishop Albéric de Humbert. The original scheme included the east end, transepts, and, probably, the two easternmost bays of the nave. Subsequently the nave was extended to a further six bays. The whole design was particularly conspicuous for its logical development. Many of the departures from the original intention are proved by a comparison of the contemporary sketches by de Honecourt with the existing building. Special precautions seem to have been taken to ensure the stability of the cathedral. This has certainly resulted in the stone vaulting surviving the recent destruction of the timber roof above it. Everything must have been put to a severe test during the recent bombardment by the German artillery. Mr. Vallance said he feared that even if the glass was not directly hit, it must be, at the least, terribly damaged by the concussion. This bombardment meant to the French the violation of one of the most revered and cherished sanctuaries in all their land, of the spot which, beyond all others, was regarded with veneration by French men and women, even by those among them who now lived in revolt against Christian religion. The French were united in the consciousness that the cathedral was the holy of holies where the seal was set on the charter of their independence. If Canterbury or Westminster should ever be stricken we British could not be more profoundly outraged than were the French by the manner in which the Germans had stricken Rheims.

[The lecturer then described and illustrated both the exterior and interior of this beautiful building, paying particular attention to the imagery for which it is so rightly famous.]

Mr. Louis Ambler, in proposing a vote of thanks, remarked that the lecture was on one of the most appropriate subjects which could have been chosen. He shared Mr. Vallance's regret that they would never again see the cathedral as it had been before the bombardment, and they could only deplore the damage done by the Germans. He quite agreed also with the criticism of the dado being carved to represent folds of drapery. The extreme height of the row of kings below the west towers seemed so excessive as to be almost appalling and out of proportion to the rest of the building. The beautiful things described are now so much obliterated that he was afraid they would never see them again.

Mr. Ronald P. Jones said Rheims Cathedral had always seemed to him to be, as it were, the Parthenon of Gothic architecture: it came exactly at the right moment in the evolution of the style. He particularly admired the extraordinarily logical construction of the west front: it did not spread out beyond the aisles, as did some cathedrals, and, again, there were the openings in the upper stages of the towers to show the arrangement of the building behind. By the way, some of the untechnical Press had presumed that these openings had had their glass windows smashed by the Germans. Similarly they had failed to understand the existence of an outer roof over the vaulting. Rheims, he thought, was the supreme example of out-and-out architecture, and the proof that architecture was something more than a collection of carving, stained glass, &c. That quality had, because of its solidity, not been destroyed. It was the decorative accessories which had been destroyed.

Mr. Arthur Belcher reminded the audience that Henry III., who spent much of his time in France, may well have been influenced by Rheims in the work at Westminster.

Mr. Curtis Green thought peculiarly appropriate this quotation from Anatole France: "There is nothing precious save the work of man's hands when God gives it His countenance." But he could not help feeling that if the Allies were to find it necessary to destroy such buildings in Berlin as the Reichstag and the cathedral they would be doing no harm to posterity.

Mr. Austen Hall, in putting the vote of thanks to the meeting, deplored that he had never seen Rheims. He considered the Angel Spire one of the most beautiful things in architecture for the way it grew out of the apex of the easternmost point of the roof and rested on the caryatid angels round the coving.

The vote of thanks was passed by acclamation.

Mr. Aymer Vallance having briefly acknowledged the vote of thanks, the meeting terminated.

The next meeting will be held on Monday, January 25, 1915, at 8 P.M., when a paper will be read by Mr. L. March Phillipps on a subject to be announced.

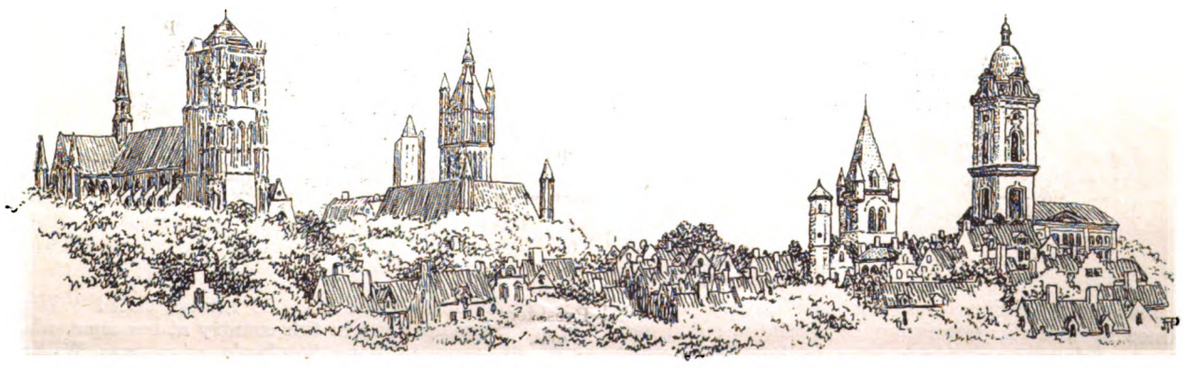


FIG 1.—THE SPIRES OF YPRES FROM THE NORTH-WEST

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YPRES.

By J. Tavenor Perry.

In May 1862 I saw Ypres in the course of a sketching tour for the first time, and have revisited the ancient city at long intervals several times during the last fifty years, and seen reason to deplore the loss and injury it had sustained by works of restoration or rebuilding; and now, in these sad days, I am able to estimate the disaster which has befallen it and the loss civilisation has sustained by the effacement of one of the most beautiful historic towns of Flanders through the savage brutality of the ill-educated modern Vandals.

According to one of the numerous war correspondents, the pronunciation of the name of the place has been found by some of our men even more difficult than its retention; but clearly they were not men of East Sussex, where, at Rye, the well-known Ypres tower is always called "Wipers." It was a famous name in this country at one time, when the Earl of Kent, in King Stephen's reign, was William of Ypres. The name, too, is familiar to many as the fancied origin of the word Diaper, supposed to be so named from

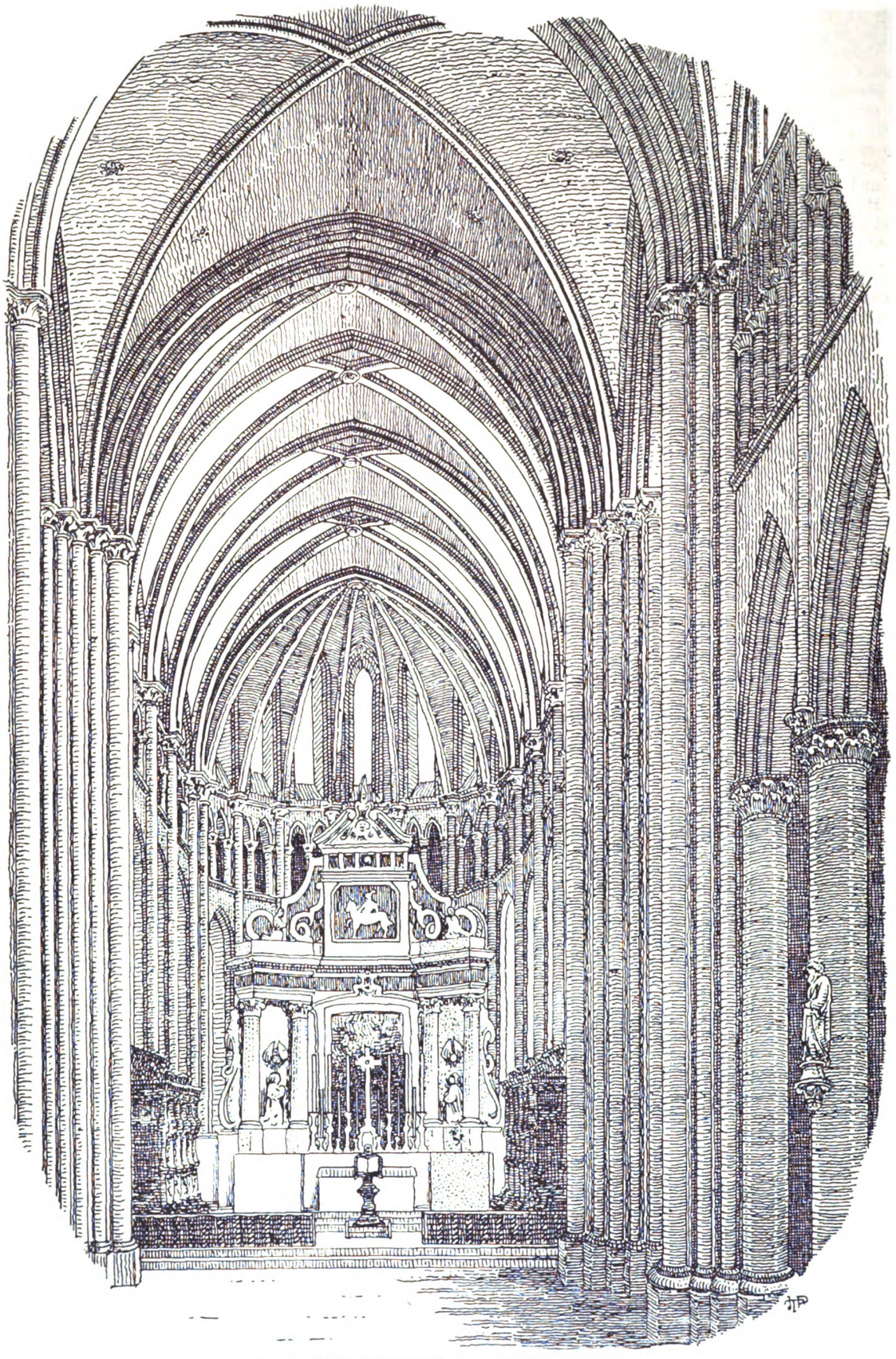


Fig. 2.—THE CHOIR OF ST. MARTIN, YPRES.

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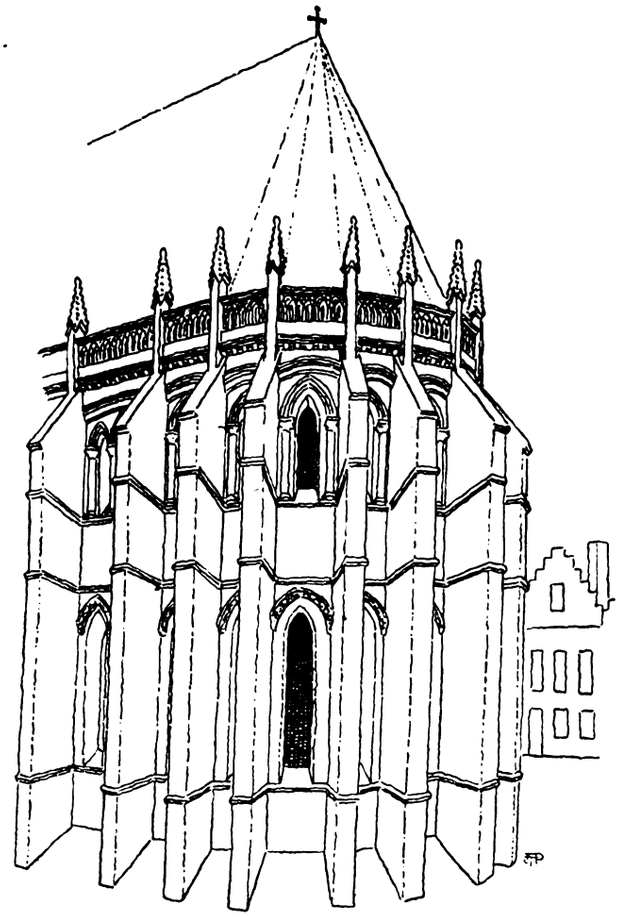


FIG. 3.—APSE OF ST. MARTIN, YPRES.

d'Ypres, the damask linen made in the place, and still believed to be the correct derivation by many in spité of the rival claim of Diasprus, the name of a rich stuff frequently mentioned by ecclesiastical writers.

Ypres was never in the front rank of Belgian cities, not having been the capital of a province, like Bruges, or the seat of a university, like Louvain; but it possessed from an early date a most important group of civic buildings in its Belfry and Cloth Hall, as well as such fine ecclesiastical and domestic mansions as made it an architectural centre unrivalled among the picturesque towns of Flanders. It only became an episcopal city by, as it were, an accident, and retained that position for barely two hundred years, the cause being the suppression of the See of Terouenne, of which it had once formed a part, after the ruthless destruction of that place by Charles V., one of the abominable acts which, with the more famous *Sacco di Roma*, were earlier examples of the unscrupulous barbarity to which a German Emperor, claiming to be religious and cultured, appears to be so prone.

Ypres stands on the canalised river Yperlé, in a vast plain protected from the inroads of the sea by the loose and shifting wall of the sand dunes which extend along the dreary coast-line from Calais to the Skaw, and some twenty miles inland; and though the Flemish portion of this land has been brought to a high state of cultivation, it lies below the level of high tide, and, as recent events have shown, is always liable to inundation. The place was in existence as early as the eighth century, but was destroyed by the Vikings in 880, and the castle was rebuilt by Baldwin III. in 901. The town which grew up again around this was well looked after by the Counts of Flanders, and enlarged both by Thierry of Alsace in 1138 and Guy of Dampierre in 1287; and finally, after some vicissitudes, Philip the Bold in 1388 surrounded it with walls, of which picturesque portions remain at the Porte de Lille and near the railway station. During the two hundred years which followed on this event the place experienced its greatest prosperity, the population reaching to 200,000; but with the troubles of the Gueux its importance began to decline,

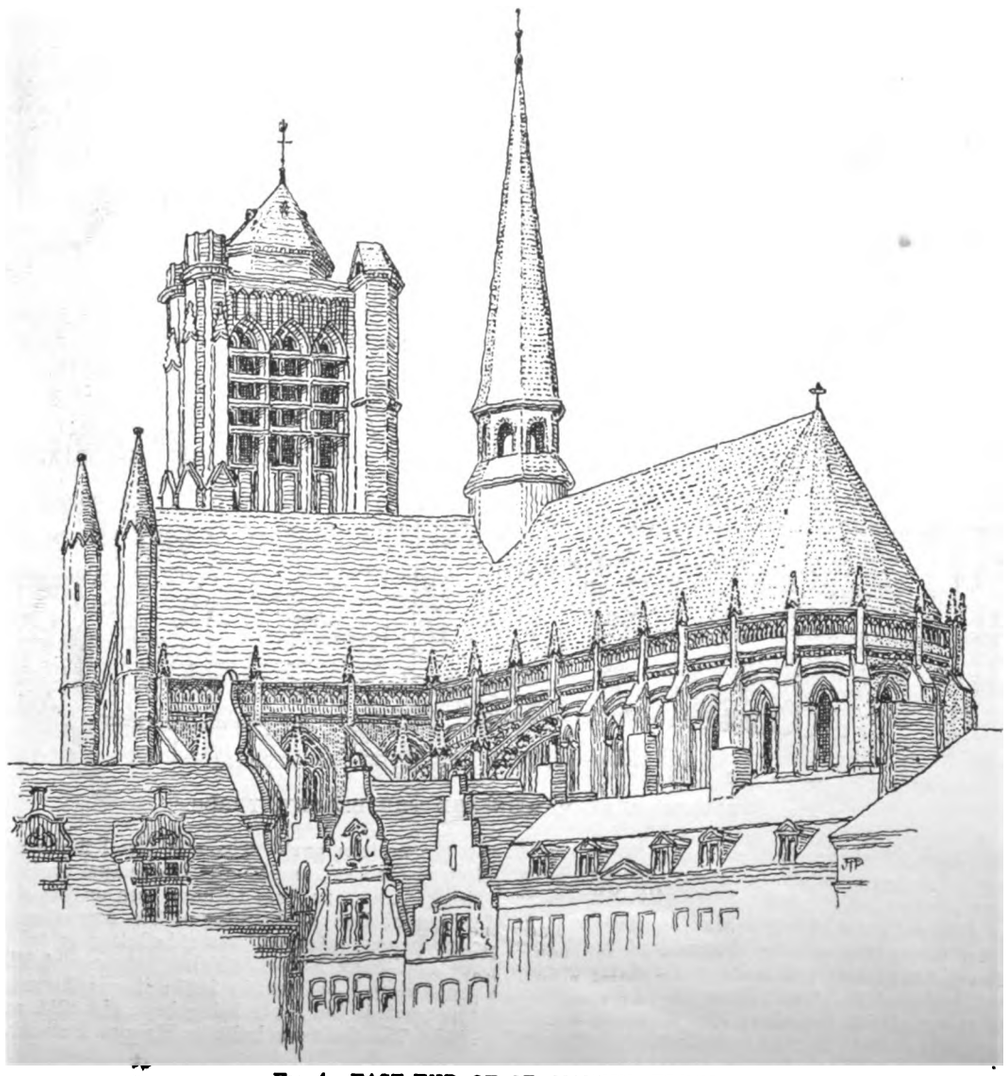


FIG. 4.—EAST END OF ST. MARTIN, YPRES.

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and Parma, Condé, and Turenne all took a turn at knocking it about, and it is remarkable that it should have survived its manifold sieges. It received a slight fillip when Paul IV. in 1559 made it the seat of a bishop, but it gradually languished, in spite of its continued manufacture of fine linen cloth, until it became one of the most sleepy towns of Belgium.

The aspect of the place as seen in approaching it by the road from Furnes, whence the principal towers and spires are seen at a glance, is shown in our sketch (fig. 1), and the names of them, reading from left to right, are as follows: the Abbey Church of St. Martin, the quondam Cathedral; the belfry rising over the roof of the Cloth Hall, with the distant tower and spire of St. Jacques; the turret of the Hospice of St. Jean; the spire of St. Pierre; and the late tower of St. Nicholas; and of these we will devote our attention first to the ecclesiastical buildings, beginning with St. Martin, and leaving the numerous civil and domestic buildings for another chapter.

The church of St. Martin, described by Schayes in his "Histoire de l'Architecture en Belgique" as one of the most imposing and splendid churches in that country, consists of a nave with aisles and western tower, north and south transepts with aisles, a long choir ending in a polygonal apse, and with north and south aisles to four bays in the western part. There is a tall flèche at the intersection of the roof, and a large late chapel south of the western tower. There appears to have been on the site originally a priory of Canons Regular of St. Augustine, to which our church was attached, but this latter is said to have been first built by Robert-le-Frison, Count of Flanders and a great church builder, in 1083; it was, however, entirely reconstructed, the choir being begun in 1221 and the nave in 1254. The choir was built by Hugues, Provost of St. Martin,

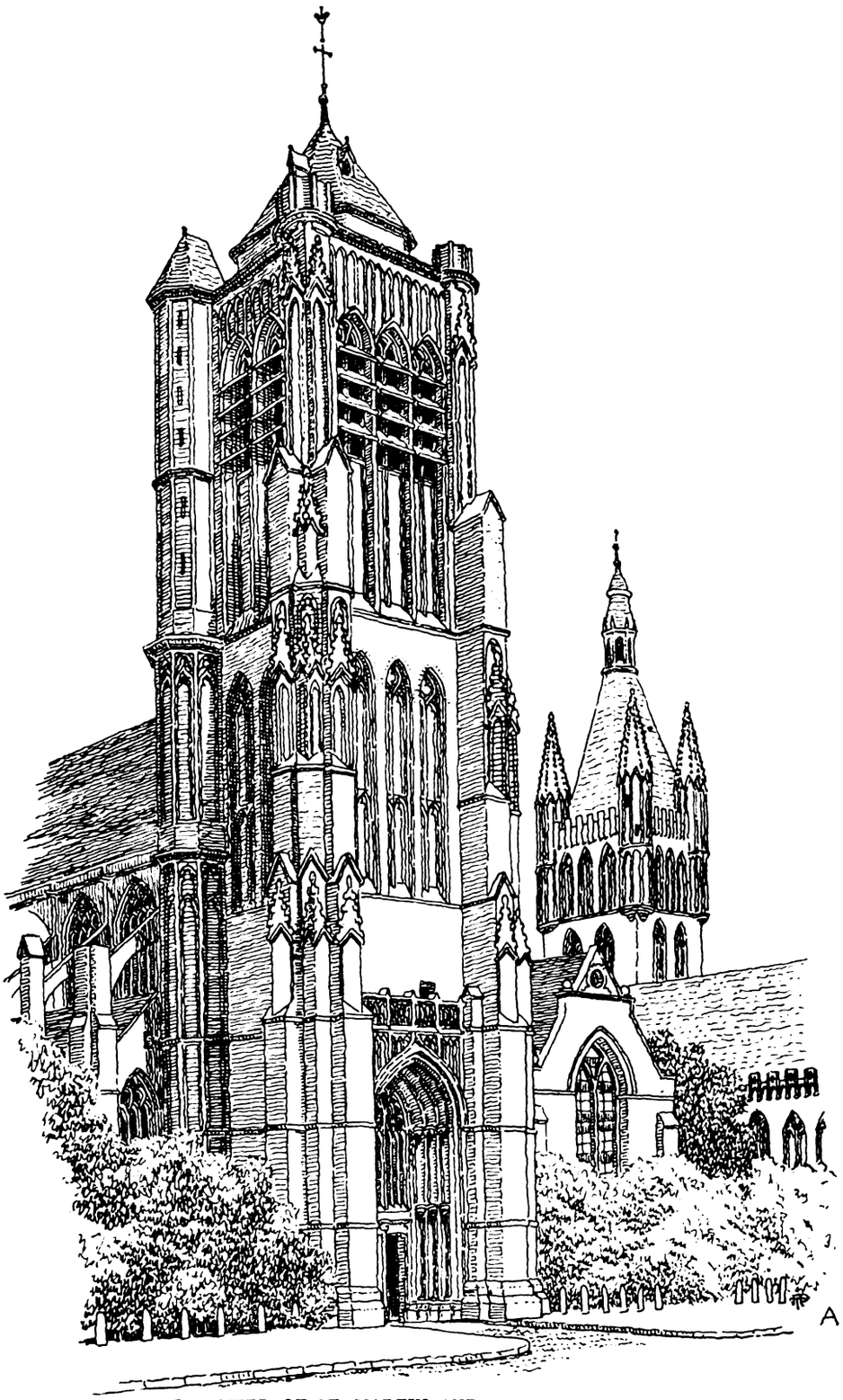


Fig. 5.—TOWER OF ST. MARTIN AND THE BELFRY, YPRES.

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as recorded on his tombstone in the sanctuary, the inscription on which was renewed in 1659 to replace the original, damaged or destroyed in the sixteenth-century troubles; and its general appearance, as he left it, save for the black-and-white marble reredos, may be seen in our sketch (fig. 2). It is remarkable in its plan in that the apse is clear of all radiating chapels or ambulatories, and stands its whole height from the ground free of such surroundings, as can be seen in our sketch, taken in 1862 (fig. 3). The fine effect of this arrangement has been destroyed in the interior by the great altar and its reredos, which frames an Annunciation by Lucca Giordanno, and which forms but a poor substitute for the stained glass of the windows destroyed in the sixteenth century. Although this obnoxious reredos was left standing, all the choir underwent a fierce restoration in 1862, when considerable damage was done both inside and out, and Mr. James Weale, a then corresponding member of the Royal Commission on Belgian monuments, supported by Mr. Hodgson Fowler, of Durham, made an ineffectual protest to a continuance of the work to the authorities. The Gueux destroyed all the ancient fittings of the choir, including four organs, but the present stalls were sculptured by Urban Taillebert an Yprois. Our view of the church from the Grande Place (fig. 4) shows the fine flying buttresses of the choir pierced with quatre foils, a rather unusual feature. The three-bay long transepts, which belong to the same period as the nave, have at the

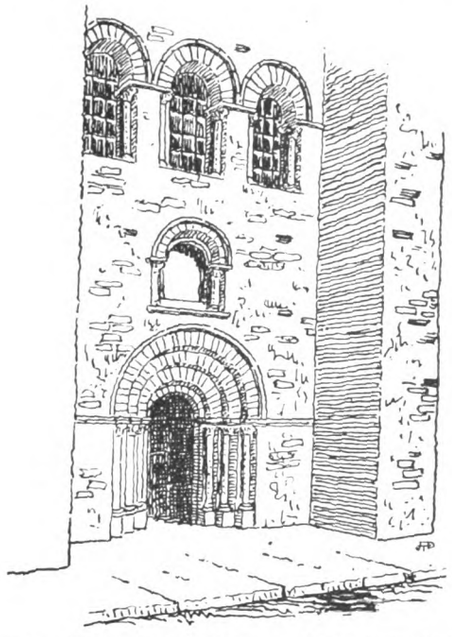


FIG. 6.—WEST DOOR OF ST. PIERRE, YPRES.

gable angles large octagonal turrets, and the southern one contains a remarkably fine rose window, the full width of the central aisle; but the whole of its rich front was badly tampered with at the restoration to the extent even of adding a fresh doorway to supply a fancied want of symmetry.

The original west end of the church was destroyed by fire in 1240, and the nave and transepts were rebuilt, the first stone being laid by Margaret of Constantinople. The brick western tower—which, in its unfinished condition, stood 188 feet 6 inches high, but was intended to be crowned by a spire—was designed by Martin Utenhove, an architect of Mechlin, is very elegant both in its proportions and details, and has a deeply recessed portal on its western face, containing two doorways and a large traceried window over them (fig. 5).

A very remarkable group of sculpture occurs at the west end of the nave placed in the opening to the tower on a semi-circular arch about level with the triforium gallery. It consists of Our Lord in the act of Benediction, in an elaborate canopied niche, and looking towards the altar, while around Him are grouped censing angels and various elaborate ornaments. Curiously enough, none of the guide-books make any reference to this; but from the character of the work, which is in stone, it is most probably from the chisel of Taillebert, the sculptor of the stalls, and may date from the commencement of the seventeenth century.

To the south of the tower stands the large chapel of St. Sacrament, also in brick, erected in 1623 for use as a parish church during the time the Priory church served as the cathedral. Its wooden cradle roof is divided into compartments, each painted a different colour, giving it a very curious effect. It may be mentioned that the pulpit, which is a great wooden structure of the kind so characteristic of Belgian churches, borne upon four emblematic figures, formerly stood in the now destroyed Dominican church. The original little cloisters of the Priory, of which Schayes gives a view, were destroyed when Bishop Jansenius, the founder of the sect known as the Jansenists, was Bishop of Ypres and turned the ancient Priory into an episcopal palace, but they were rebuilt in the seventeenth century. The palace is now a convent of poor Clares. In this description of St. Martin we speak of all the parts mentioned as still existing, but if many of the reports that are published are true, but little of the building has been left standing.

The church of St. Jacques has suffered very severely from modernisation, and contains but little of interest, but it was begun as early as 1139, though the western end of it, together with the tall square tower, was built in 1412. Of the church of St. Pierre we give a sketch (fig. 6) of the most ancient portion remaining, consisting of the

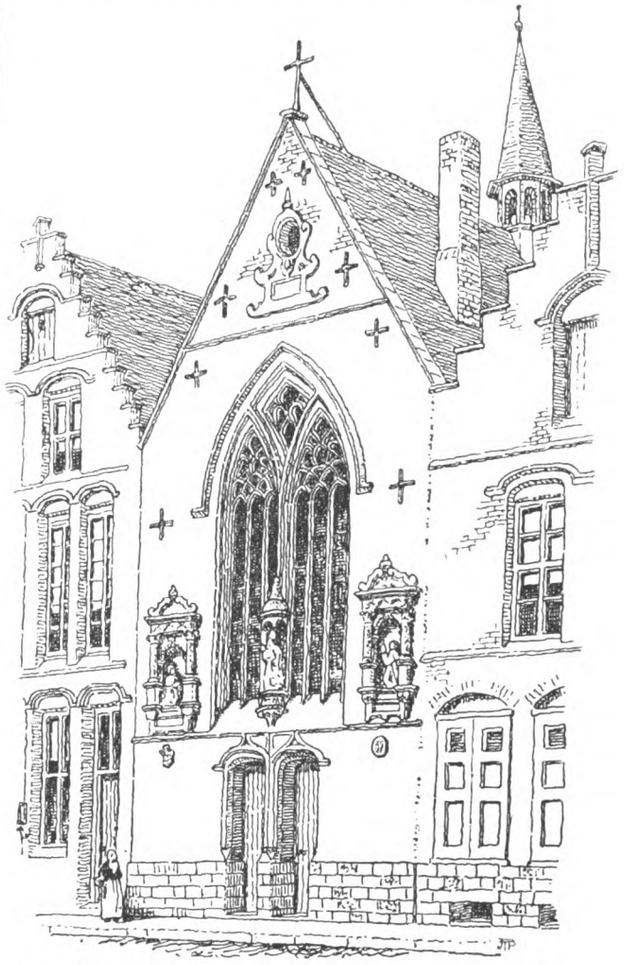


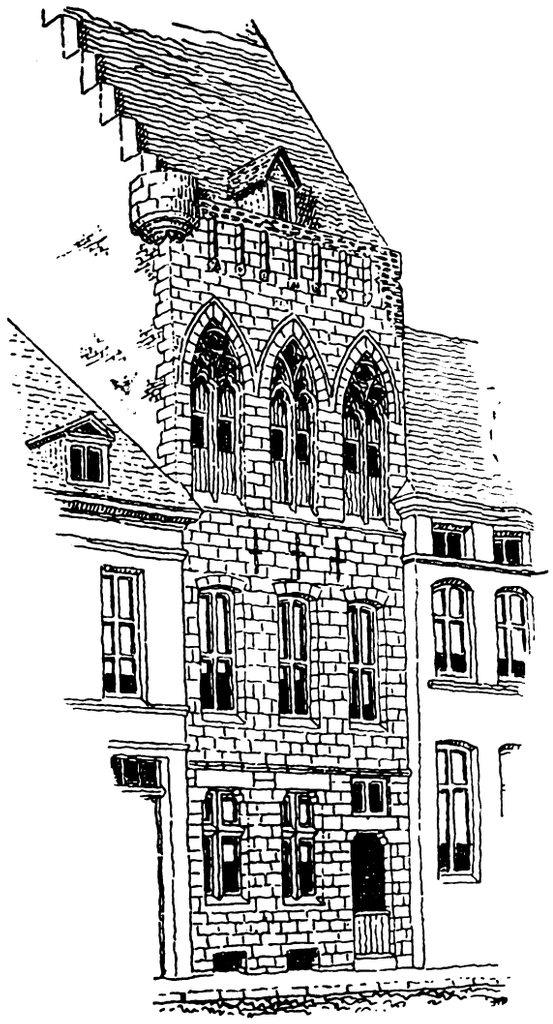
FIG. 7.—L'HOSPICE BELLE, RUE DE LILLE, YPRES.

lower part of the façade of the west tower, all built in iron-stone, with the western porch and entrance. The church was founded by the already mentioned Robert-le-Frison in 1073, when the base of the tower was built, the upper part being raised in 1110; but the greater part of this was reconstructed by Ysendyck in 1868. The upper storey shows on each face two round-arched openings contained in a label slightly pointed, and at the angles of the tower are bartizan turrets ending in spires; the modern restoration seems to have been a correct one. The church appears to have been constructed in the transition style, of a similar character to the work at St. Sauveur, Bruges; but the vaults belong to the fifteenth century and are carried out in a poor manner.

The church of St. Nicholas has been rebuilt in modern times, including the lofty tower which, of no great beauty

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in design, acts as a useful foil to the other Gothic spires. The little tower showing in our sketch next to that of St. Pierre belongs to the Abbey of St. Jean of Terouenne, founded in Ypres after the destruction of that city for the religious who had been turned out of doors by the Lord of the Holy Roman Empire. Besides this, Ypres contains many ecclesiastical establishments of some architectural importance, and among these may be mentioned the Augustinian Hospital of St. Mary, on the Grande Place, founded in the fourteenth century, having the façade to



MAISON DES TEMPLIERS, RUE DE LILLE, YPRES.

its chapel designed by Vauban, whose name is more often associated with fortification than with architecture. But more interesting than this is the hospital of St. Nicholas, commonly known as the Hospice de Belle, on the west side of the Rue de Lille, of which we give a sketch (fig. 7). It was founded in 1272 by Solomon Belle; but the remarkable façade of the chapel, which points on the street, was partly rebuilt in the fifteenth century, and a large part is occupied with a great traceried window of brick, in six lights. On either side of this window is a niche recalling in its design those of the front of Como Cathedral and due to the Spanish influences of the several Flemish architects who are known to have worked at Toledo or in other Spanish towns. These niches contain kneeling figures of Solomon Belle, and Christine de Ginnes, his widow. The interior contains many objects of interest to an architect.

THE Church of Holy Trinity, Coventry, which has one of "the three tall spires," and is said to be, internally, the handsomest church in the diocese of Worcester, requires very extensive repairs to its tower. The tower betrayed signs of weakness on the first Sunday in August, when, during morning service, two large pieces of stone fell on to the organ chamber. Since then an examination has been made and loose stone removed. The work of repairing the tower alone will not be less than £6,000. The spire, which is now being examined, was last restored in 1887 at a cost of £537.

THE CONCRETE INSTITUTE.

Abstract of Paper by H. Kempton Dyson entitled "Shear and Problems Arising Therefrom."

THE determination of stresses and strains in materials has formed the subject of many investigations. The usual mode of attacking the problem involved has been often referred to as the "mathematical theory of elasticity"—which is, however, an all-embracing title that should rightly cover the whole subject. In its narrower aspect it means the mathematical analysis of stresses and strains in an elastic medium that is homogeneous and non-granular. Seeing, however, that such a material is purely imaginary, the mathematical analysis, though strictly exact in itself, may not conform to the facts of the experiment. The mathematical analysis that has arisen from such consideration is a most powerful assistant to the engineer, and, by the adoption of suitable functions to suit the peculiarity of the composition of each material, will, within the limits of elasticity, afford many important relations that accord with the facts determined by experiment. Mathematics, including in large part the processes which have been evolved by consideration of the ideal elastic substance, have only comparatively recently been applied to another mode of approaching the determination of the stresses and strains in materials in which their granular nature is recognised and their resistance and deformation expressed in terms of the inter-molecular forces and motions. Professor Sir J. A. Ewing has put forward in a tentative way a theory of electrical attraction between molecules, while Professor A. Rejtö, of Budapest, has worked out in considerable detail a theory dependent upon molecular friction.

Various hypotheses to account for rupture in bodies under stress have been advanced by writers from the point of view of the mathematical relations of a homogeneous, non-granular elastic material. Lame assumed that material was ruptured when the greatest tensile stress reached a limiting value. Poncelet, followed by Sain-Venant, assumed that failure occurred when the greatest extension reached a certain limit. Tresca, followed by G. H. Darwin, suggested that rupture occurred at a limiting value of the largest difference of the greatest and least principal stresses, while Colomb made a somewhat analogous suggestion that failure occurred when the greatest shear reached its limiting value. This view, in recent years, has received much support from experiments conducted by Mr. J. J. Guest, with the consequence that it is often termed "Guest's Law."

The stress at any point can be completely specified by only six components on rectangular axes, three being normal and three tangential to the three planes, in which three axes lie, and, further, three planes can be determined upon which the resultant stresses are wholly normal. Such planes are called principal planes, and the stresses across such planes are called principal stresses. The directions of the principal stresses are generally called the axes of stress.

Various experiments on steel and cast-iron specimens under combined stresses clearly seem to show that when rupture occurs the maximum shearing stress is far more constant for ductile materials than the maximum principal stress, but not so for a brittle material like cast iron, where the reverse order of things applies. Brittle materials are weak in tension, and the author of this paper offers the opinion that rupture of materials ductile occurs by shearing, but that rupture of brittle materials occurs by tension. Rupture by compression stress alone never occurs. If materials are ruptured under a thrusting load it is by the shear or the tension that is induced thereby, as will be referred to in greater detail hereafter. It is suggested that ductile materials are distinctive in their structure in that they are crystalline in structure and appear to break down by sliding along the cleavage planes of the crystals.

The writer, working on his assumption that brittle materials of distinctly granular structure fail by weakness in tension, has made an analysis of the conditions of rupture of a granular mass in which there is cohesion. The analysis proceeds on allied lines to Rankine's analysis of frictional stability, with the difference that cohesion is not ignored. Various analyses of the stresses existing under such a mode of failure have been put forward by writers on the strength of materials. It has been supposed that brittle materials under stress should fail on planes inclined at an angle of 45 degrees to the direction of the stress. With ductile materials under direct tension the analysis appears to be approximately correct, though Professor Rejtö contends that the angle of slipping is a characteristic property of the materials and varies with different materials. It is well

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known that tension specimens draw out at the point of rupture into a conical and cuplike form of fracture, the angles at the faces of the cup being approximately 45 degrees.

In compression, however, with ductile materials the relation does not appear to hold with the same degree of accuracy, the very nature of ductile materials being to swell in compression, and as they swell so their area increases. The stress cannot be increased beyond a certain point, at which they become permanently deformed, according to geometric laws, so that there is no indication of elasticity or tendency to return to the primitive shape. By microscopic inspection of the faces of such compression blocks a justification of the ordinary analysis is, however, found in that ridges are noticeable upon the surfaces showing where the material has slipped upon the cleavage planes of the crystal structure, which slippings occur approximately at 45 degrees. The customary mode of analysis proceeding on the lines of the mathematical theory of elasticity for non-granular and homogeneous elastic solids, as we have seen, leads to the reasonable explanation as regards ductile materials. Navier made a further assumption in an attempt to explain why brittle material did not fracture on planes at angles of 45 degrees, but, as with cast iron and concrete, at some angles inclined in the neighbourhood of 30 degrees to the axis of the compressive stress. His assumption was to consider that materials failed by sliding on an oblique plane, and that the tension on that plane had to be overcome as well as the shearing resistance of the material. The author of this paper was led to his other mode of analysis, whereby the material was considered as a granular mass with cohesion, by knowing that later experiments did not appear to agree with the values derived by Navier's analysis. Experiments had, indeed, shown that the resistance of concrete to direct shear was very different to the shearing value which was found by Navier's analysis, and punching experiments on concrete specimens again showed different values. The shearing value for concrete determined by different modes of analysis and experiment were found to be different. It remained, therefore, to see if some reasonably uniform relation could be found between the resistance to shearing force derivable from experiments on direct shear, and from the analysis of the shear stress induced by direct compression. This relation appears to consist in the dependence of the resistance to shear upon friction and cohesion, or, as the latter might equally well be termed, tension. A uniform relation is found between the experiments on building stones, concrete, and cast iron in respect of failure under tension, compression, and shear. The author next referred to the relations between the bonding moments and shearing forces on beams.

Reference has already been made to the fact that experiments tend to show that rupture of ductile materials under compound stress occurs by shearing stress on oblique beams to have regard to the point where maximum shear will occur. This is often calculated for vertical or horizontal planes, but it requires determination on oblique planes. As regards joist sections, if the web were fairly slender the maximum intensity of shear stress is found at the connection between the web and the flange, and not upon the extreme fibre. This points to the conclusion that our standard sections ought to be investigated with regard to their possible weakness at the shoulders, as such weakness might be very serious in beams of short span.

It is well known that webs need to be stiffened by the provision of vertical stiffeners under point loads to prevent crushing and buckling of the web, and the provision of stiffeners to prevent the rib buckling by diagonal stress is also adopted more or less empirically (seldom by theoretical determination) in the case of plate girders. From the fact that the directions of the principal stresses crossed each other at right angles, at an inclination to the neutral axis of about 45 degrees, the web is in the condition of a strut, so that stiffeners may require to be provided either in the form of vertical or inclined members in order to convert the plate girder into a lattice girder.

In reinforced concrete we have a somewhat analogous position. Reinforced concrete beams are quite a distinct type in themselves, because they pass through two stages in their resistance to cross-breaking. In the first stage the steel remains uniformly connected to the concrete in which it is embedded. In the second stage the steel slips through the concrete for part of its length, and the concrete cracks in the tension portion, so that the beam becomes converted into a form of construction which, in different modes of reinforcing, would appear to consist of either a concealed arch with a steel tie, a trussed beam analogous to the trussed timber beam, or a frame. Frames subjected to transverse loading are, of course, subjected to shearing forces, but the effect of the shearing forces is naturally very different on frames from that on a girder with a solid web or upon arches. A shearing force diagram only consists of the plotted values of the tendency to shear it asunder which the load exerts upon the structural member. We can, therefore, have a shearing diagram equally applicable to a beam, an arch, or a frame, but the manner of using the diagram for determining the internal stresses which result from the shear forces must be different in each case.

Persons may be misled in connection with shearing-force diagrams as applied to frames by reason of the similarity between the use of the diagram for calculating stresses in a beam and frame. Whereas application is close in the case of concentrated loads applied at the connection points of the frame, in the case of distributed loads the shearing-force diagram is not so closely related. The fact that the area of the shear-force diagram up to any point is equal to the numerical value of the bending moment at that point in the case of freely supported beams will often be found of considerable service in practice, while the feature that the point of maximum bending moment is the point of mere shear, which is of general application to free, fixed, and continuous beams, is of common employment for the determination of the maximum bending moment.

The fixing of one end and, one end or the other, has an effect upon the distribution of the shear along the length of a beam. Partial fixity as occurs with continuous beams will affect the shear in similar fashion, and it should be noted also that partial loading of continuous beams (*i.e.*, loading any or all of the spans wholly or in part) will result in different distributions for the shear and gives different reactions on the supports. For this reason the current practice of generally taking the load on the support next to the end of three or more continuous equal spans as equivalent to the load on one span is considerably in error, as is the practice of taking the shear as the same as on a freely supported span. For the determination of shear throughout the length of beams required to sustain travelling loads, where these point loads are applied at several points of the span and can move throughout the span, use is made of influence line methods. The shear in the webs of beams is applied to the flanges. This may be considered generally as a gradually increasing thrust from the end of a beam and tends to cause lateral flexure of the compression flange considered as a long strut.

When the web is stiffened either vertically or obliquely the stiffeners act as struts, and the web takes diagonal tension like the diagonals of a frame. This diagonal tension tends to cause vertical secondary bending of the flanges between the panel points, which should again be taken into account in the detailing of plate girders.

If the stiffeners are arranged vertically they convert the girder into practically a Pratt truss, where the stiffeners are in compression. If the spacing of the stiffeners is closer together than the arm of the beams apart, the diagonal tension may still be considered as inclined at 45 degrees, the system becoming one of superimposed trusses. If the stiffeners are diagonal the girder becomes an N-truss. In riveted joints not only the shearing resistance of the rivets, but the safe-bearing stress on the plates or other members through which they pass, must be studied. Very often the bearing stress is less than the bearing resistance, the value of which is derived in Appendix V. In using that value, however, it should be remembered that the holes in which the rivets are inserted are punched or drilled large enough to enable the rivet to be inserted easily. Consequently when the rivet is closed it will have the larger diameter of the hole.

Reinforced concrete beams are quite a special form of construction, because the stresses are induced in them in different ways according to different modes of arranging the reinforcement, and according to the amount of reinforcement; that is to say, a reinforced concrete beam may prefer to act as a flat arch with a tie rod if it is able to hold up in such a form with less stress than it would in some other fashion. On the other hand, if it acts as a beam the conditions are different in the case where the stress is such as not to have ruptured the concrete by tension therein from the case where the concrete is cracked. Generally some parts of all reinforced concrete beams are in the uncracked condition and really require analysis on the lines of a homogeneous section, the materials, however, having different moduli of elasticity both for the concrete in tension and

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compression and the steel. In the majority of cases the reinforcement is insufficient in amount to prevent cracks occurring at some point or points in the beams, and then when cracks appear it means that the steel has moved in the concrete, and that the construction either consists of a trussed beam or a framed beam in part or in whole. Where the reinforcement is inclined at the ends there is an obvious analogy to a trussed timber beam. Such a type of reinforcement is quite appropriate for point loads. When the cranked bars are in combination with straight horizontal bars a practical type of reinforcement is provided which forms a sort of half-way house, and can equally well resist point loads or distributed loads. In the latter case not only do the straight bars produce one sort of beam action, but the cranked rods resist the shear in that the inclined pull in the bars affords a vertical component at every part of the length to resist the shear.

The resistance to the shearing force of a beam must, in the presence of cracks, be altered to the manner in which an arch, a truss, or a frame resists shearing force. Diagonal cracks in nowise preclude the concrete from taking diagonal compression parallel to such cracks.

It was early found in practical work that it was advantageous to reinforce beams against shearing force in other manners than by trussing members. Either alone or in combination with such vertical reinforcements, web members (either vertical or diagonal) were provided. Numerous patents have been taken out for various forms of separate web members, though often they can be economically provided by turning up the main bars. Where other practical and theoretical conditions preclude one from using so many bars as would enable one to turn up the bars at the proper additional separate members the system may be a double one. The frame action of vertical and inclined web members generally belongs to two types. In the first case, where vertical web members are employed, the construction becomes a kind of N-truss, in which the concrete forms compression members and the steel the tension members. In the diagonal form the construction becomes practically a lattice girder. In both types of construction the frames may be, and often are, superimposed: that is to say, the spacing of the vertical members or of the diagonal web members is frequently fairly close.

It should be borne in mind that the theoretical analysis of the stresses in materials is in the nature of a speculation; it is an attempt like all scientific theory to explain the facts, but with the progress of investigation further facts come to light which cause us to modify the former theory. In that way there is a gradual improvement and greater exactitude about theories. But their chief purpose must always remain to draw the attention to the practical engineer to what is happening, likely to happen, or what may possibly happen, and in practical design the complications of refinements in theory are too great to permit of adoption. The practical engineer, by study of the theory, will, however, be able to make his own simplifying assumptions for approximate calculations, which will enable an economical and safe structure to be erected satisfactory in all the directions indicated by elaborate analysis.

OPEN-AIR HOSPITALS.

To the current number of the *British Medical Journal* Dr. Saundby, Professor of Medicine at the University of Birmingham, contributes a long article on "An Open-air Military Hospital."

The value of open-air hospitals for the treatment of the sick and wounded he holds to have been abundantly demonstrated long since. Hospitals, however, have continued to be built to please architects and building committees, and a handsome façade is thought indispensable, so that thousands of pounds are spent on putting up monumental buildings to the glory of their founders. In times of peace these may escape criticism, but now, when the demand for hospital accommodation is two or three times that of the supply, and money is needed for so many purposes that there is none for waste, it is wise that an example has been set at Cambridge which he trusts may be followed all over the country wherever more hospital accommodation is required, and that there may be no more converting buildings into hospitals which are not designed or suited for the purpose.

The whole merit of the establishment on the open-air plan of the 1st Eastern Military Hospital (T.) at Cambridge belongs to Colonel Joseph Griffiths, R.A.M.C. (T.). Nine weeks ago the present hospital was begun, and for the last five weeks it has been in full operation, providing 1,220 beds besides lodging for orderlies, kitchens, and other offices. This marvel of creation has been effected at a cost of £20,000, or in round figures of £17 a bed! The site has been lent and costs nothing. It is King's and Clare's Colleges cricket ground.

The nurses, who are Territorial Army nurses, are housed in Selwyn College, as the War Office would not sanction a building which Colonel Griffiths proposed to erect for them of the same material, and following the plan of the rest of the hospital. So the nurses have the inconvenience of walking to and from their work, which in winter will prove to be not slight, and may induce the War Office to reconsider its decision.

The hospital building consists of ten blocks, each containing 120 beds; a straight corridor runs right through dividing the wards, so that there are ten wards of 60 beds on the right and ten wards of 60 beds on the left of this central corridor, which runs north and south.

The buildings are one storey high, with low-pitched roofs covered with corrugated iron. The walls are made of asbestos, set in frame-work. The wards contain two rows of beds, one against the back wall, the other by the open side, these latter beds being about 2 feet from the low breast-work. The open front is guarded by blinds of Willesden canvas, like the sunblinds of shop fronts, which can be let down at an angle to shelter the beds from snow or rain, or in very stormy weather they can be let down so as to be flat against the openings. The back wall of the ward does not reach quite up to the roof, but leaves an opening about 9 inches in width running the whole length of the ward, so as to allow through ventilation. Each ward of 60 beds has two side wards, each containing one bed, for cases it may be desirable to remove from the general ward.

The wards run east and west, so that the open side in each case has a south aspect. The floors are of wood. Each patient has three blankets, one of which is generally wrapped round the patient, and the other two cover him, but a fourth is supplied if the patient needs it. In a separate building are the operating theatre, with two tables, two anæsthetic rooms, and one X-ray room. A dispensary and a medical officer's common room are at one end of a long building, in which are also a receiving room and registrar's office. The sleeping accommodation for 120 orderlies and sergeants of the R.A.M.C. (T.) is in buildings on the same plan, the beds being arranged in bunks. There is a messroom for the sergeants, which is also used by them as a common room, but the orderlies have a messroom and a common room in which they can read or write and smoke. A recreation room for patients, 100 feet long, is now being built. The kitchen provides meals for 1,500 persons.

Why, it must be asked, will not the War Office sanction the erection of similar hospitals on unoccupied land near London and other great cities, where the best medical and surgical aid is available? The motor car and the telephone have made a distance of a few miles negligible. Wimbledon Common is as accessible as the Mile End Road, and infinitely better for the patients. A hospital with 2,000 beds could be built there on the Cambridge plan for £40,000, and what a boon would such an addition be in a few months, when we may expect our numbers at the Front to be double or treble what they are now and the casualties proportionately increased.

Among other places, Birmingham has ample space in the empty land by the University buildings, now occupied as the 1st Midland Military Hospital, for such an extension, and it only awaits the approval of the War Office to be undertaken by patriotic citizens who would be pleased to contribute to its equipment. We cannot believe that the example of Cambridge will be allowed to be lost.

THE ORIGIN OF THE CIRCULAR SAW.

By JAMES D. ROOTS, M.I.Mech.E.

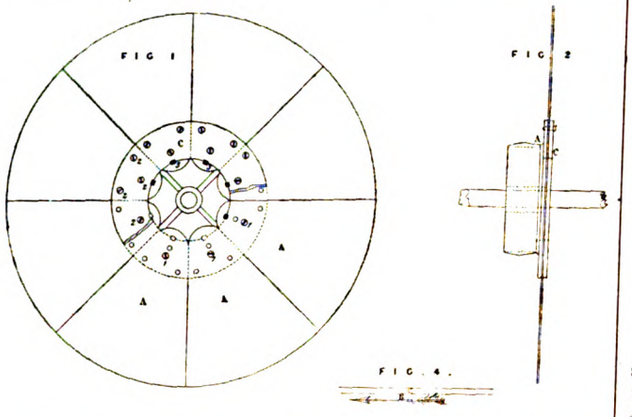
A GREAT deal of interest has recently been aroused in *The Architect* and in the daily press by a discussion as to where and by whom the circular saw was first produced. The article in *The Architect* of November 20 ascribes the inventorship of the circular saw to James Murray, an inhabitant of Mansfield, Nottinghamshire, who was employed in a mill owned by a Mr. Brown; and this article, as well as the writers on this subject in the daily press, by repeated reference to Mr. Brown's patent, appear to regard it as an established fact that James Murray

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was the inventor of the circular saw, and that a patent for the saw was granted to Mr. Brown, his employer, a saw-miller at Mansfield.

So much discussion having taken place, and it being a matter of general interest that the inventorship of so useful and almost universally adopted an appliance should be determined, I made a careful search in the Records of the Patent Office under different headings to discover the facts of the matter.

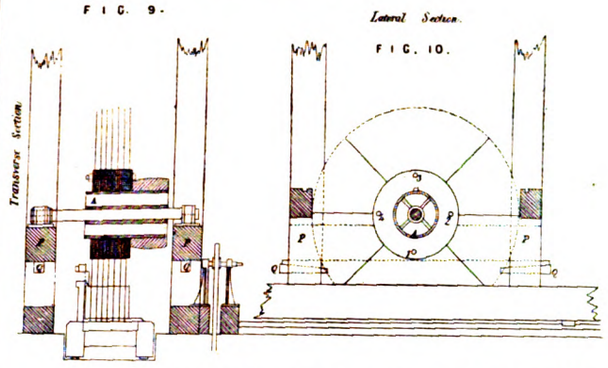
Whatever claim Mansfield may have made as the town in which this invention was produced, and the reference, in the article in *The Architect*, to the history of Mansfield in support of the statement that James Murray was the inventor of this labour-saving device, I have not been able to find any record of the grant of a patent to either Mr. Murray or Mr. Brown having this subject matter—viz.,



circular saws. Moreover, the Records show conclusively that circular saws were in use considerably earlier than the date 1820 mentioned.

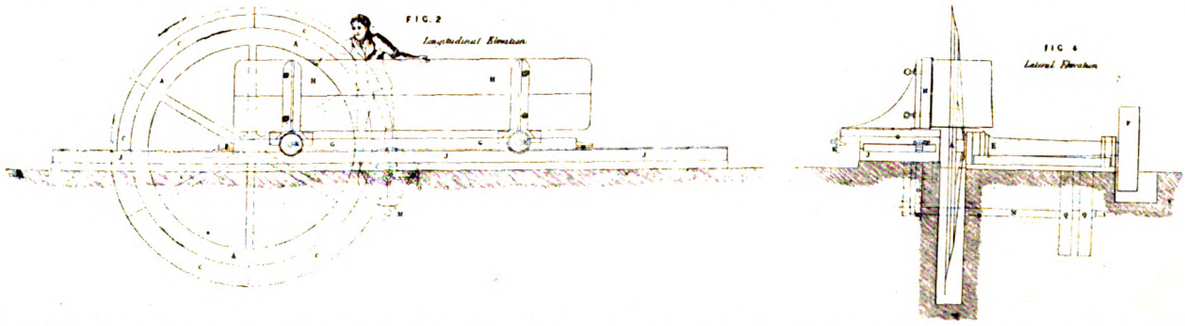
The search, however, provides matter for much general and literary interest, since the earliest patent which clearly illustrates a circular saw very similar to that in use at the present time was granted to Marc Isambard Brunel. Two patents were, in fact, granted to him—No. 2844, dated June 7, 1805, entitled Saws and Machinery for Sawing Timber, and No. 3116, dated September 14, 1808, entitled Circular Saws. The first of these patents is illustrated by eleven figures, and the following illustrations are figures 1, 2, 4, 9 and 10, taken from the drawings filed with this patent application, and the descriptive paragraphs are quoted from this specification:—

"The saws are intended to be of a circular form, and in order to obtain a great diameter, made of two or more pieces of sheet steel, properly adjusted and fixed together. The pieces A, A, A, having been cut to the proper shape, and fitted together at the edges, as represented at B, are screwed against a flanch A, which has been previously turned very flat. The holes through which the screws pass are cut in an oblong form in order to admit of adjustment. When the plates have been thus fastened to the flanch A another flanch C, figures 1 and 2, is laid upon the plates, and in order to make it fit and bear with equal power upon each plate several thicknesses of paper or leather of the size of the flanch are placed between it and the plates. The flanch C is fastened to the other by screws 2, 2, 2, &c. The improvements in the machinery for sawing timber in an easy and expeditious manner consist in the modes of laying and holding the piece of wood in the carriage or drag, in the facility of shifting the saw from one cut to another, and in the practicability of sawing both ways, either towards or from the saw or saws. Figs. 5, 6, 7 and 8 of the specification (not here shown) represent the machinery fitted up with one circular saw only; the circular saw A is adjusted upon a spindle of a cylindrical form, which turns within rodings C, C. The saw is intended to be turned with either a strap or a band moved by any power (water, wind, steam, horses, or men). The drum D is to receive a strap. The figures 9 and 10 represent the manner of adjusting several saws on one spindle, by which means a piece of wood may be partly or entirely converted at one operation. In that case, the flanches of the saws are fixed upon an iron drum, A, figs. 9 and 10, and kept firm and close with each other by four bolts 1, 2, 3, 4, fig. 10. In order to lower saw or saws when they wear away, the side rails P, P may be depressed by means of the wedges Q, Q, figs. 9 and 10."



The second patent of Brunel, No. 3116, of 1808, contains some further improvements upon the earlier patent granted to him, the improvements being, apparently, especially applicable to saws of larger diameter, and to provide means for stiffening the saw when employed of such increased diameter. The second patent also contains improvements in the mechanism for moving the table. The following two illustrations and description are taken from this patent specification:—

"The certain improvements on circular saws for sawing wood in an easy and expeditious manner are intended to cut out thin boards or slips with as little waste as appears practicable. In order to obtain that end a saw requires to possess two essential qualities—viz., a very thin edge, and at the same time a greater degree of steadiness. The certain improvements above-mentioned consist in the construction of a circular saw or circular saws which are intended to unite both qualities, and thereby render the sawing easy and expeditious. The annexed drawings show the plan, elevation and sections of a circular saw or circular saws composed of one or more pieces. The saw represented in the plan and elevations is 10 ft. diameter, and is composed of several plates of steel C, C, C, C, C, C, fig. 2, fixed to a circular frame or wheel A, A, figs. 2 and 4. The plates of steel C, C, fig. 2, form segments fixed by means of a circular clamp or clamps B, screwed or riveted to the rim A. The surface of the segments, laid as they are represented at C, fig. 2, is of a conical form, which terminates into a thin edge D. This edge is cut, as a common circular saw, into teeth, which may be set at pleasure in the usual manner. The circular frame on the edge of which the segments C, C, C, C, C, C, fig. 2, are screwed is fixed to a shaft E, figs. 3 and 4, which is to be set in motion by such means as may appear the most eligible. In the drawings it is intended to be put in motion by a steam-engine, and connected to it by means of a strap revolving on a drum F, fig. 4."



As it was clear from the wording of both of Brunel's patent specifications that even at that time a circular saw

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was not regarded as novel, and that, in fact, both of Brunel's specifications were for improvements upon circular saws, we extended the search farther back in order to discover if possible the earliest patent specification of the kind. We think that there can be no doubt, as a result of this search, that the inventor of the circular saw was Samuel Miller, sailmaker, of Southampton, to whom a patent was granted in the year 1777, numbered 1152, dated August 6, entitled *Sawing Machine*. It is clear from this specification that Mr. Samuel Miller regarded a circular saw at that time as entirely novel, as the opening words of the specification, of which the following is a copy, minus the lengthy legal preamble, refer to it as an entirely new machine:—

"No. 1152 of 1777. Samuel Miller, sailmaker, of the town of Southampton. 'Sawing Machine.' An entirely new machine for the more expeditiously sawing of all kinds of wood, stone or ivory as described in the following manner: The machine that gives the power, a horizontal windmill. The shaft of the mill stands vertical with four levers fixed to it at right angles with the shaft, to which levers are fixed the sails. The sails when in motion are one half of their time horizontal, the other vertical. The upright shaft, being in motion, communicates its power to a horizontal shaft. This shaft hath a large wheel to it, round which goes a rope or chain which is continued to a smaller; through the smaller wheel goes a square bar of iron that receives the saws which are a circular figure. Those saws being in motion, the matter or substance they are to cut is brought forward as follows: The horizontal shaft as mentioned before hath a small wheel on it with a groove to receive a rope; the rope is continued to a smaller that hath a pinion to it connected to a straight bar under the chariot which hath teeth to match the pinion; the chariot moves in a groove likewise on a centre; it hath two motions, the one to advance forward and the other sideways, which is performed by a screw annexed to the end of the chariot. This screw is turned by hand to direct the pieces against the saws agreeable to any line wanted to be cut. Dated August 6, 1777."

Although there are no drawings to this patent specification, it is perfectly clear from the statement that "the saws are a circular figure," and to the fact that a square bar of iron was provided to mount these saws upon; and, further, that a sliding carriage or table is described upon which the wood or the material to be cut was mounted for sawing; that Mr. Miller, although his specification is brief and perhaps somewhat vague, clearly understood the requirements of a machine on which the circular saw which he refers to as having a circular figure was to be mounted and rotated to enable the wood to be advanced for cutting.

My search would therefore appear to deprive the town of Mansfield of the honour of having produced the first circular saw and to transfer this honour to the town of Southampton.

LEEDS AND WEST YORKSHIRE ARCHITECTURAL SOCIETY.

A GENERAL meeting of the Leeds and West Yorkshire Architectural Society was held at the Leeds Institute on Thursday evening, December 3, the President, Mr. G. F. Bowman, occupying the chair.

A lecture on "The Churches of Caen and Neighbourhood" was given by Mr. James R. Wigfull, A.R.I.B.A. Amongst the many examples illustrated by slides were some smaller and lesser known churches of great interest. The development, general history, and particular points of detail were dealt with in an excellent lecture, and the lantern slides, prepared from the author's own photographs, presented the subjects in an artistic and very satisfactory manner.

Mr. Frank Gedon Foster proposed a hearty vote of thanks to the lecturer, which was seconded by Mr. J. E. Braithwaite.

ART IN LONDON.

THE THEATRE AND ART AS SHOWN BY E. GORDON CRAIG.

THOUGH, as ever, we were not only desirous of being, but also determined to be, impartial in our judgment, yet it was with a leaning towards approval (should this be at all possible) that we approached the doors of Messrs. Dowdeswell's Galleries with the purpose of inspecting the work of that present-day apostle of "True" Art—Mr. Edward Gordon Craig. The cause of this somewhat unbalanced state of mind was the fact that a proportion of the proceeds of the Exhibition is to be ear-marked for the Prince of Wales' Fund, and we did not wish that any possibly adverse criticism should be called for to militate against the success of this desirable consummation. Consequently our disappointment was the keener when a careful survey forbade favourable criticism, except to the limited extent which follows.

Let us consider the Exhibition in the light of Mr. Craig's own "Foreword," and of Mr. J. Cournos' Preface. The actor-artist tells us "when all is said and done beauty is the one thing most needed and the one thing least understood by us. . . . A beautiful thing is that which is calm, clear, living, quiet, strong, symmetric, simple, strange yet familiar—both old and new."

How far, then, do Mr. Craig's sketches bear out his views upon beauty? No. 1 (Design for a Hamlet Play Scene) is effective in its colour and chiaroscuro, and also possesses some of the qualities set out above. No. 8 (a Back-cloth for "Much Ado about Nothing") is also a pleasant and effective colour scheme, but lacks "scale," substituting an appearance of Liliputianising, which is regrettable. Nos. 57 and 58 are commendable, but perhaps the best are "A Dancer" (39), "The Fool" (King Lear), and No. 35 (from the prologue of "The Masque of Hunger"), the last mentioned possessing some decorative effect, largely contributed by the treatment of the cloud of steam arising from the smoking dish which is being borne to the heavy-paunched individual at the table. The outline profile sketch of the late Bram Stoker is very good in its multum-in-parvo treatment.

We might hesitate to enter criticisms here respecting the quality of the drawings qua drawings, as it might be thought that they were merely means to an end; but Mr. Cournos, in his Preface to the catalogue, offers a challenge when he writes: "They are works of art as drawings simply because an artist, even without his proper medium, must express himself in another medium"—and he continues in a flowery style of hyperbole that renders the inspection of the exhibits correspondingly disappointing. He says elsewhere that "Mr. Craig wants Beauty and Imagination in the theatre," but where do we find any suggestion of beauty in this exhibition? Imagination? Yes! The "Pink Giant" (15) shows this quality, with his monstrous flap ears and with his casual mode of eating his human victim. Nor are the drawings self-explanatory; they need their titles as their trumpeters, and give the latter a very poor show for the preliminary blaring.

There may be a certain antiquarian interest in witnessing to-day the staging of plays à la mode Elizabethan, but such staging cannot compare favourably with the modern method of giving local environment and atmosphere to aid in the delusion of the senses. We do not say that Mr. Craig wishes to revive the Elizabethan drama, but we see no attraction in his crusade against existing conditions and in his endeavours after simplicity.

The public might well expect something more as the exhibited outcome of ten years of a life devoted to Art; but for the most part the sketches are of the character, denominated in one of the Shakespearean plays, included for consideration—"Much Ado about Nothing."

NOTES ON BOOKS.

"Practical Surveying and Elementary Geodesy," including land surveying, levelling, contouring, compass traversing, theodolite work, town surveying, engineering field work, and setting out railway curves. With notes on plane tabling, astronomical surveying, and heliographing. By Henry Adams, late Professor of Engineering at the City of London College, M.Inst.C.E., M.I.Mech.E., F.S.I., F.S.E., F.R.San.I., M.S.A., &c. (London: Macmillan & Co., Ltd. 4*s.* 6*d.*)

WHEN a new book appears on a subject which has already been well treated by other authors, the first question that arises is in what direction does the newcomer mark progress beyond the work of its predecessors? There may be novelty in matter, advance in discovery or practice, improvement in presentment. In this case we should characterise the volume as excelling in its thoroughness of the treatment of chain surveying with or without the use of simple instruments. It is therefore eminently suitable for those students whose main business is not land surveying,

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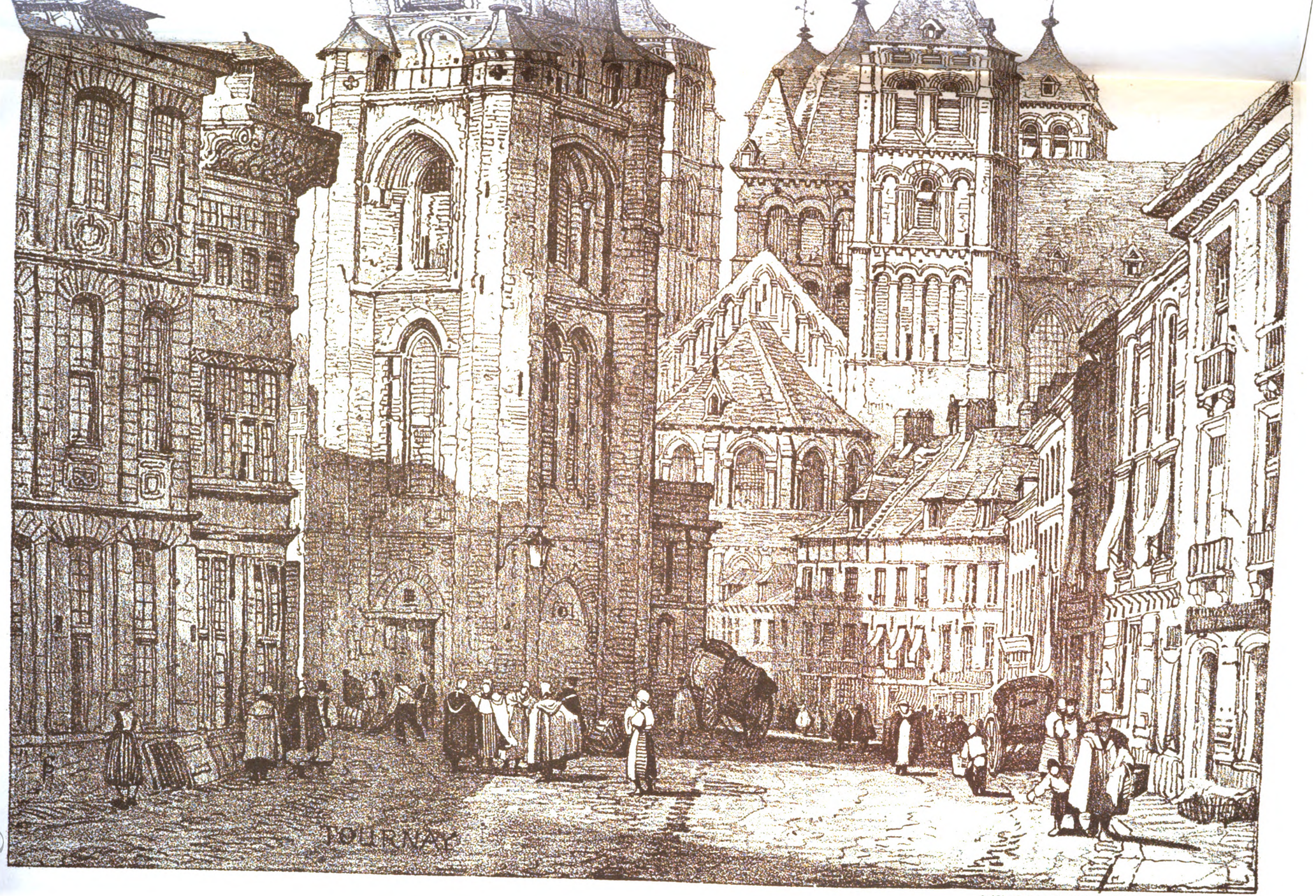


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TOURNAI.

From "Continental Sketches," by SAMUEL PROUT

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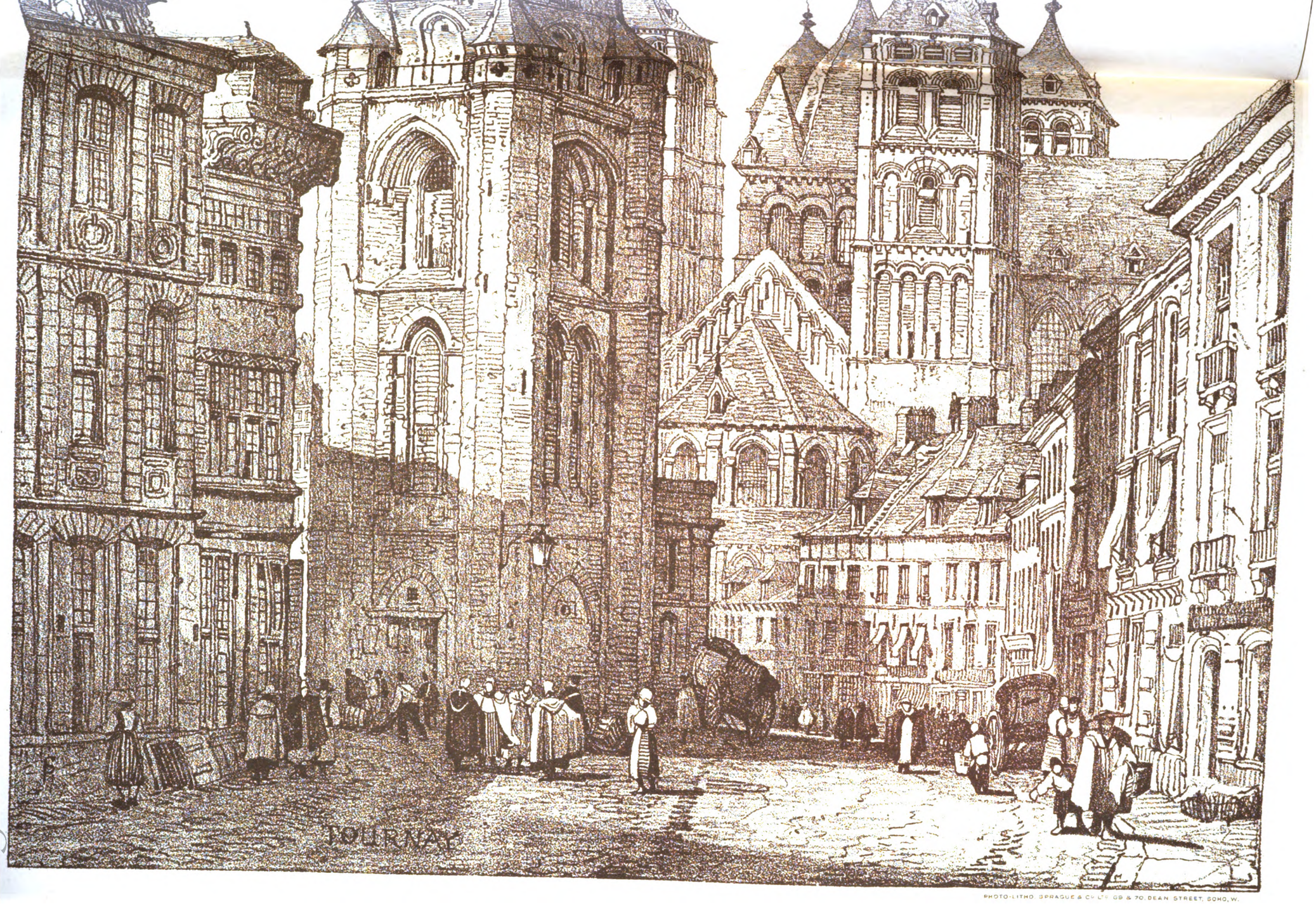


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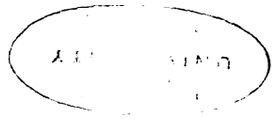
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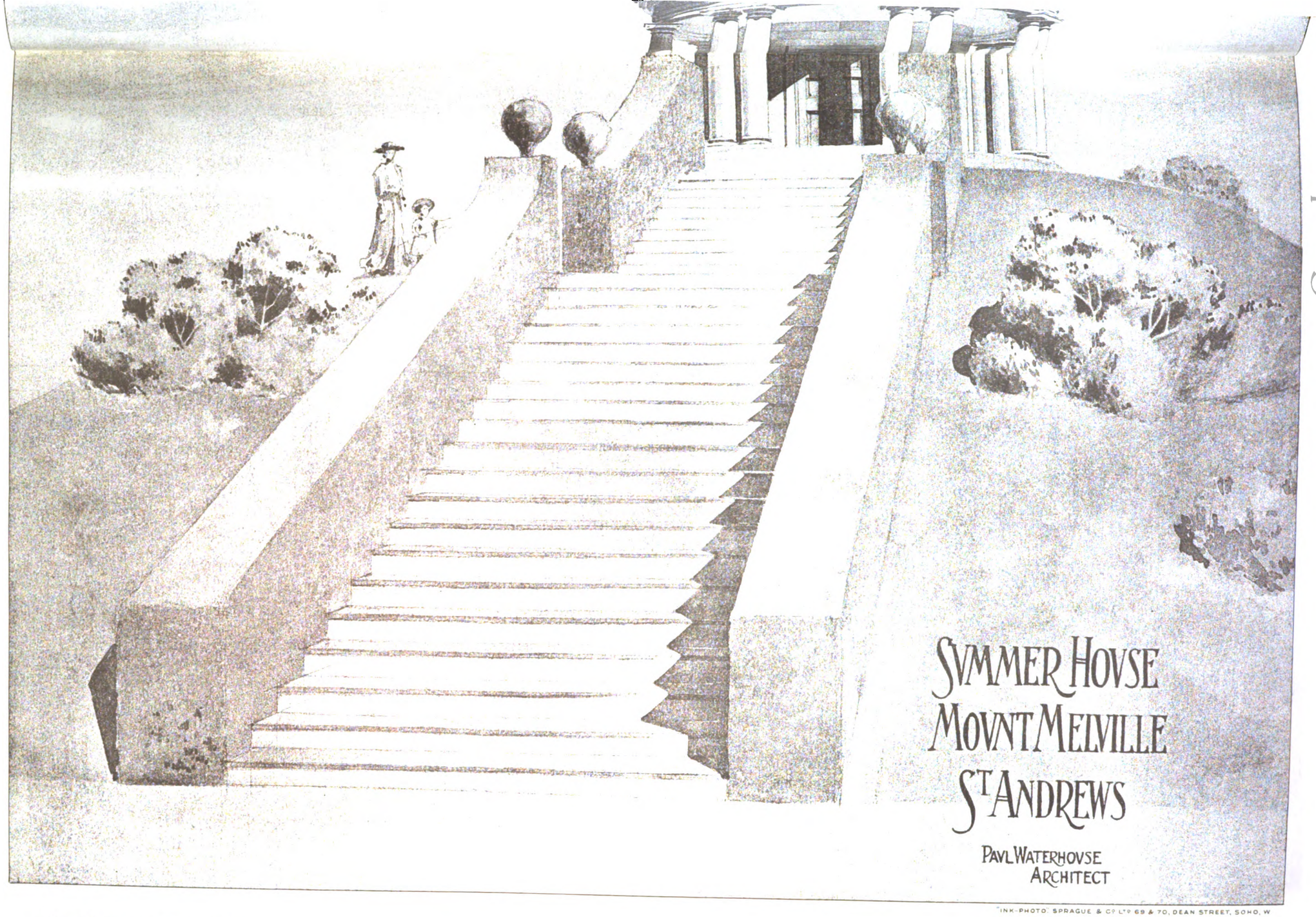
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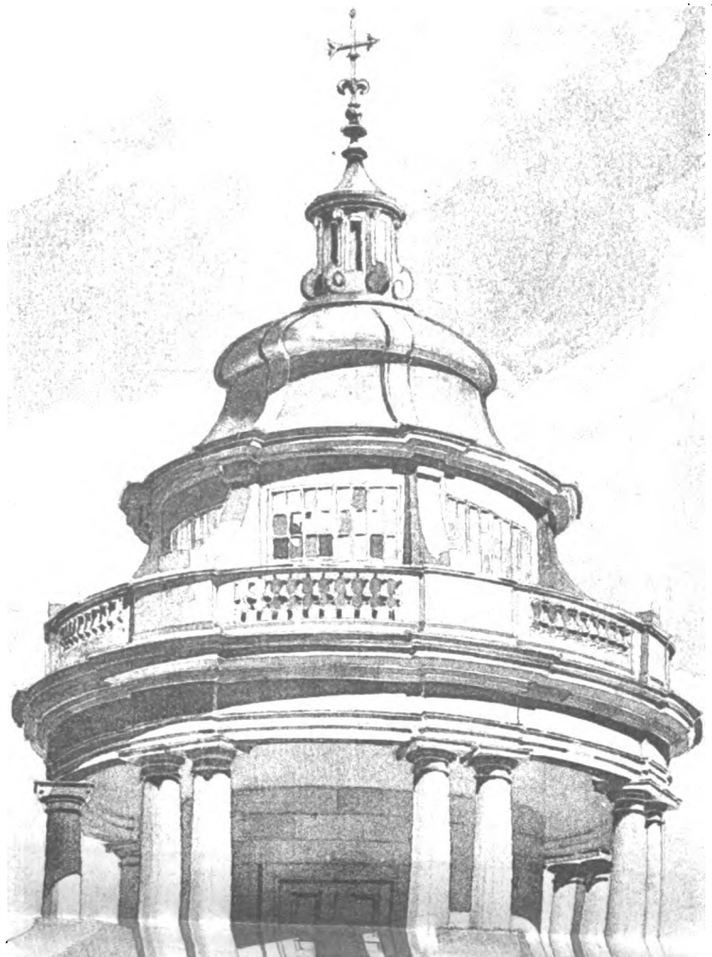


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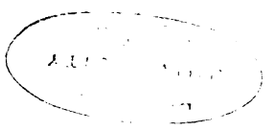


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but to whom that subject forms an incidental complement to other studies. For the purpose of architectural assistants, for example, it is desirable that they should know how to make an accurate plan of a site, but compass traversing is for their purpose useless, unless, indeed, they devote part of their time to training as Territorial officers. Therefore they want a book in which they can find the greater attention given to what they need. It may be interesting to them to know that geodesy includes the many methods which the author includes in his title page, but they must not expect full instruction in these for 4*s.* 6*d.*

"The Cancer Problem": a Statistical Study. By C. E. Green, F.R.S.E. Third edition. (Edinburgh and London: William Green & Sons.)

To lay down the proposition that the study of cancer should form part of the curriculum of an architectural student would be, by most of our readers, regarded as absurd; yet, after perusing the results of Mr. Green's very careful and methodical studies of the cancer problem, we are forced to admit that some knowledge of the conditions under which cancer is most prevalent, if they be not indeed predisposing causes, is desirable for an architect. With the medical side of the question we are not concerned, but the author's investigations clearly point to the conclusion that certain houses are cancerous and others not, certain localities are so and others not. We therefore commend this little volume to the perusal of architects, without revealing more of its contents than the fact that smoky chimnies appear to be undoubtedly causally connected with the incidence of cancer.

"A Bibliographical List descriptive of Romano-British Architectural Remains in Great Britain." By Arthur H. Lyell, M.A., F.S.A. (Cambridge: University Press. 7*s.* 6*d.* net.)

IT is a peculiarity as regards discoveries that have been made in Great Britain of Roman remains that the records thereof are scattered amongst a multitude of publications, many of them of restricted circulation and often of merely local cognisance. Hence there is often difficulty for students or dilettanti who may be interested in any particular branch of the subject in finding out what has been recorded and where. For this purpose such a bibliography as the present is an urgent necessity. This list may also prevent needless excavations on sites that have been exhaustively explored and described, and, as very frequently occurs, have again been covered up, so that on the surface there may be no more than a local tradition, usually exaggerated of what lies below.

THE FUTURE CONTROL AND MAINTENANCE OF RURAL ROADS.*

THAT some change in the management of our rural roads is necessary is indisputable, both in the interests of uniformity and of equalisation of cost. The disadvantages arising out of the present system are obvious to all, and need not be enumerated. It may also be admitted that many small districts exist which, by reason of their restricted area and rateable value, are utterly incapable of taking their place in any national system that may be adopted. These are matters which call for adjustment by the county council boundaries committees, and need not seriously interfere with the retention by local authorities of some measure of control over the whole of the roads in large rural districts.

The contention of the author is that it is essential in the interests of efficiency and economy that local authorities should retain some measure of control over the roads in their area, subject, of course, to a certain measure of national supervision, where assisted by national funds, and in some cases even where not so assisted.

To place the whole of the roads in England and Wales, as has been suggested, into the hands of some sixty county councils, whose multifarious duties are already getting beyond their capability of control, and the local knowledge and interest of whose members is in many cases confined to their immediate division, would inevitably result in practically the whole of the control being placed in the hands of the county surveyor. The result would be to destroy the initiative and ambition of the rank and file of those surveyors who have been imbued with the highest ideals, and whose experience and local knowledge well fit them to continue the work which in the past they have performed under disadvantages to themselves and the authorities they have served.

That some local authorities take a parsimonious attitude in their highway expenditure is admitted, and the reason is not far to seek. As the collecting authority both for themselves and the county councils, they come most in touch with the man who pays the piper, and who blames them not only for their own tune, but that also of the higher authority, over whose lavish expenditure they have no control, and whose ever-growing demands compel them to curtail their own requirements, however necessary.

The setting up of the Road Board has undoubtedly been a step in the right direction, and the handing over to that body of executive powers over the whole of the road authorities in the country, with full control over the grants proposed to be made to them (which in many cases require to be greatly increased), would inevitably result in the adoption of a more uniform system in the management and control of our roads, while retaining that amount of local supervision which is essential in the interests of true economy and efficiency and compatible with the spirit of local government, and is an important factor in centralising and creating a national system.

No great change would be necessitated in the existing arrangements of the various county and district staffs. The Road Board would absorb many of the highly trained heads of county council departments, and thus find an outlet for the inexhaustible energies of those gentlemen whose one ambition apparently is to control the highways, byways, and other ways of England.

Probably one of the most desirable results from a professional point of view would be to prevent unqualified persons being appointed, as the Road Board would exercise similar powers to those now exercised by the Local Government Board in the appointment of sanitary inspectors and medical officers, and to fix reasonable salaries in place of those miserable doles now paid by some small councils. A further result would be a specialisation in road construction, as distinct from other branches of the engineering profession.

* Abstract of Paper read before the Institution of Municipal Engineers by J. S. Wooddisse, M.Inst.Mun.E., Surveyor to the Shardlow Rural District Council.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Reading.—St. Joseph's R.C. School.

BUCKINGHAMSHIRE.

Amersham.—Grammar school.

Downley.—Nine houses for High Wycombe R.D.C.; also

High Wycombe.—Council cottages, Horsler's Green.

CHESHIRE.

Altrincham.—Depôt: additions for U.D.C. (£850).

Birkenhead.—Working-class houses, North End and Rock Ferry.

Ellesmere Port.—Council school, Heathfield Road. County architect (Chester).

Marple.—Tuberculosis Hospital, Mab Top Farm (£25,000), for Salford Corporation.

CUMBERLAND.

Wigton.—Proctor's House: alterations for County Council.

Bolsover.—Parish hall.

Chesterfield.—St. Augustine's Church.

DERBYSHIRE.

Church Gresley.—Parish hall.

Clown.—Parish Church: enlargement.

Unstone.—Mission church.

DEVON.

Bovey Tracey.—County Sanatorium, Hawksmoor: alterations and extensions. Messrs. Ellis, Son & Bowden (of Exeter), architects. Messrs. Woodman & Sons, contractors, Bartholomew Street, Exeter.

Devonport.—Council School, King Street: reconstruction for 816 places.

Tavistock.—Proposed School of Art, Russell Street (£1,500).

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ENGLAND—*continued.*

DURHAM.

Shotton.—Fifty houses, for Easington R.D.C. (£13,000).
Ushaw Moor.—Five houses, for Messrs. J. & R. Wood.
Wolsingham.—Sanatorium: pavilion for forty beds. Mr. T. Sharpe, architect, Shire Hall.

ESSEX.

Chelmsford.—Parish Hall, Moulsham. Mr. W. H. Pertwee, architect, Institute, London Road.
East Ham.—Passmore Edwards Hospital, Shrewsbury Road: extensions.
Nine houses, Masterman Road, for Mr. J. W. Lohden.
House, Romford Road, for Mr. W. Wackett.
Southend-on-Sea.—Council School, North Street, Leigh: proposed alterations (£6,370).

GLOUCESTERSHIRE.

Bristol.—Church of St. Matthias-on-the-Weir: addition. Messrs. W. Cowlin & Sons, builders, Stratton Street, St. Paul's.

HAMPSHIRE.

Basingstoke.—Sanatorium, for Met. Asy. B. (£31,000).

KENT.

Bromley.—House, Farwig Lane. Mr. F. G. Crickett, architect.
Margate.—House, Glencoe Road. Mr. W. Ward, architect.

LANCASHIRE.

Bacup.—The "New Inn," Rochdale Road: proposed alterations, for Messrs. Thwaites & Co.
Bolton.—Banking premises: extension. Messrs. Temperley & Son, architects, 8 Bradford Buildings, Mawdsley Street.

LEICESTERSHIRE.

Earl Shilton.—Hosiery factory, for Messrs Bird & Yeomans.
Evington, North.—Workhouse Infirmary: extensions (£25.000).

LINCOLNSHIRE.

Lincoln.—Proposed East End Baths. Council surveyor.
Premises, Saltergate: alterations, for "Lincoln Chronicle" Co.
Store, Newland, for Messrs. Tomlinson & Hayward.

MIDDLESEX.

Hanwell.—Public Elementary School, Boston Road.

NORFOLK.

Norwich.—Norfolk and Norwich Hospital: emergency ward for wounded soldiers. Messrs. Boardman & Son, F.R.I.B.A., architects, Queen Street.

NORTHUMBERLAND.

Newcastle-on-Tyne.—Girls' Secondary School, Ravensworth Road, Heaton.

NOTTINGHAMSHIRE.

Nottingham.—Council School, Lowater Street, Carlton Hill.

SOMERSET.

Midsomer Norton.—Infants' Council School for 120 places.

STAFFORDSHIRE.

Smethwick.—Smethwick Hall School: addition to clinic. Mr. F. J. Gill, architect, 116 High Street.
Tillington.—Children's Homes, Stone Road, for B.G. Mr. R. A. Glass, architect, Newport Road, Stafford.
Wednesbury.—Council School, Moxley.
Wolverhampton.—Firemen's dwellings (£3,200).

SURREY.

Godalming.—Sanatorium for 230 women patients (£42,000), for Met. Asy. Board.
Hackbridge.—Premises, London Road: extension, for the Hackbridge Manufacturing Co.
Sutton.—Two houses, Benhill Road, for Mr. Richards.
Shop, Carshalton Road, for Dr. Halsted.

SUSSEX.

Brighton.—Pair of cottages, for the Corporation.
Workhouse: alterations. Council surveyor.
Eastbourne.—Workmen's dwellings.
East Grinstead.—Sanatorium for 168 beds for men (£30,000), for Met. Asy. Board.
Littlehampton.—Council School: additions and alterations. Mr. H. P. Roberts, F.R.I.B.A., County education architect, Thurloe House, Worthing. Messrs. Snewin Bros., contractors, High Street (£1,500).

WARWICKSHIRE.

Birmingham.—Council School, Ryland Road, Erdington (£12,650).
Special school for mental defectives, Selly Park Road, King's Norton.
Special schools at Anglesey and Lichfield Streets and at Greet.
Coventry.—Electricity Works: extension.
Foleshill.—Five houses, Booth's Fields. Messrs. Jones & Bacon, builders, Little Heath.

WILTSHIRE.

Salisbury.—Council school. Mr. A. C. Bothams, architect, 32 Chipper Lane.

WORCESTERSHIRE.

Droitwich.—Police station. Mr. A. V. Rowe, architect, 30 Foregate Street, Worcester.

YORKSHIRE.

Bridlington.—Two houses, Cardigan Road. Messrs. Blackmore & Sykes, architects, 5 Victoria Road.
Doncaster.—St. James's Wesleyan Ref. Church.
Hebden Bridge.—Proposed St. John's Church (for 500 sittings).
Leeds.—Forty-eight workmen's houses, Ivy House Estate (£10,000).
Wetherby.—Auction Mart, Angel Court, for Messrs. Tomlinson & Sons.
Council school.

WALES.

Aberayron.—Warehouse, The Quay, for Messrs. Spillers & Bakers.
Llangollen.—Premises, Oak Street: additions, for Messrs. R. Evans & Son.
Margam.—Forty-seven working-class houses, Bryn (£9,700).
Neath.—Isolation hospital, the Cimla.

SCOTLAND.

Brechin.—Co-operative Stores. Mr. D. W. Galloway, architect, 2 Market Street.
Crossgates.—Board school for 650 places.
Dumbarton.—Bonhill Public School: additions (£2,450). Messrs. Boston, Menzies & Morton, architects, 25 Church Street, Alexandria.
Edinburgh.—Garage, King's Stables Road, for the Corporation.
Glasgow.—Girls' Industrial School, Maryhill: additions (£8,000).

IRELAND.

Belfast.—Strand Church: manse.
Rosses Point.—Hotel, for Midland Railway.

PATENT SPECIFICATIONS PUBLISHED DECEMBER 3, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 23,906. Oct. 22, 1913.—George Lamond, 50 Cramond Street, Glasgow. Hot-air heating system for buildings.

25,503. Nov. 7, 1913.—E. L. Joseph, 96 Victoria Street, S.W. Apparatus for effecting the sterilisation of water or other liquid by ozonation or the like.

25,797. Nov. 11, 1913.—George Chisholm, Providence Works, Fleet Street, Birmingham. Brackets suitable for supporting toilet requisites or other articles.

25,886. Nov. 12, 1913.—E. E. Slater, Winton Cottage, Taplow, Bucks. Automatically controlled inlet and outlet valve applicable to sewage disposal.

25,934. Nov. 12, 1913.—John Armstrong, 5 Victoria Street, S.W. Incandescent gas fires.

26,173. Nov. 14, 1913.—J. H. Francis, Markham House, Abbott Road, Bournemouth. Paving material.

26,472. Nov. 18, 1913.—R. H. Stephens, 39 Casterton Road, Stamford. Vapour burning stoves and lamps.

26,894. Nov. 22, 1913.—T. W. S. Jones, 35 Hornsey Rise Gardens, N. Fire extinguishing apparatus.

2,773. Feb. 3, 1914.—Douglas Allport, junr., 6 Newton Grove, Bedford Park, W. Sliding doors and partitions.

3,103. Feb. 6, 1914.—Thomas Coleman, senr., Alfred and Thomas Coleman, junr., and Frank Coleman, Alfreton Road, Derby. Drying and heating of stone grit, sand, or other materials.

3,421. Feb. 10, 1914.—Peter Cruikshank, 55 Ashley Terrace, Edinburgh. Chimney cans.

28,326. Dec. 9, 1913.—J. F. Davy, Sherwood, Greenhill Road, Wylde Green, Warwick; P. H. Mellor, Downend, Woodville, Derby; A. A. Lines, Richmond Villas, Woodville; and H. J. Yates, Essex Works, Thimble Mill Lane, Aston, Birmingham. Manufacture of "radiants" for gas fires, commonly known as gas-fuel.

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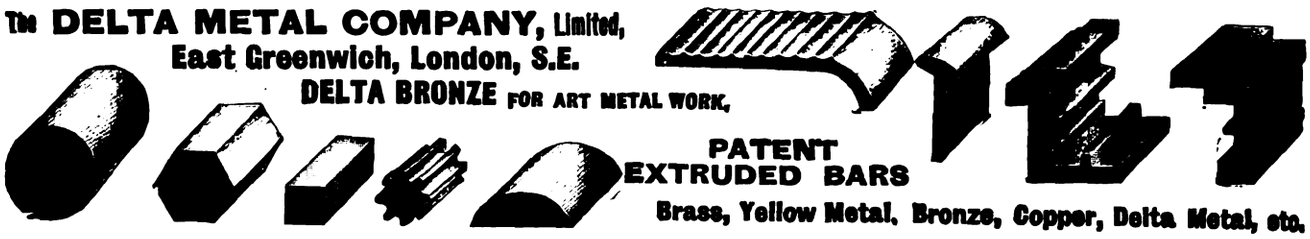
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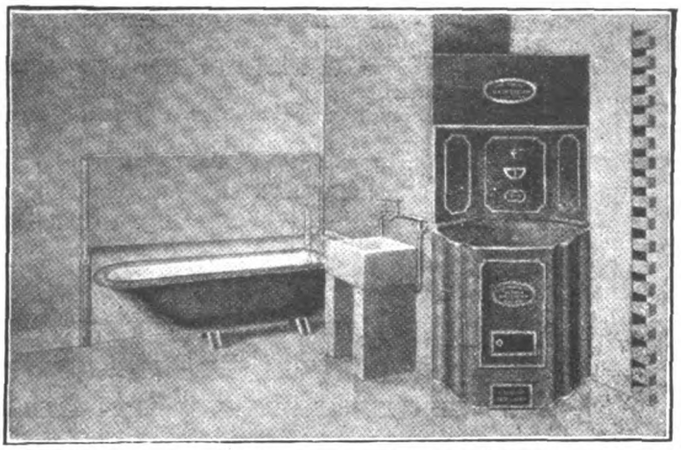
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"THE ARCHITECT" Students' Sketching and Measuring Club

With the view of encouraging amongst architectural students the sketching and measuring of old work, the Proprietors of "The Architect" have decided to establish a Students' Sketching and Measuring Club in connection with this journal.

A separate subject will be set and a money prize given each month, and in July a Travelling Studentship will be awarded to the student who has submitted the best aggregate of work during the year.

SUBJECT FOR DECEMBER, 1914.

A measured drawing or drawings with details and a perspective sketch of a piece of domestic furniture of not later date than 1800 A.D.

Conditions.

1. There is no restriction on the size or number of the drawings to be sent in by each competitor, but only one subject is to be submitted.

2. The subject drawn need not necessarily be in its original position, but may be in a museum or elsewhere.

3. Each drawing is to be accompanied by a short historical and architectural description.

4. A prize of Two Guineas will be given to the author of the drawings considered best by the Editor, or at his discretion the amount may be divided between the contributors. All drawings will be returned to their authors.

5. The drawings to which the prize is awarded will, if suitable, be published in *The Architect*, but the Editor reserves the right of publication without payment of any other drawing sent in.

6. Drawings are to be delivered at the office of *The Architect*, addressed to the Editor, and marked outside "Sketching and Measuring Club," on or before Thursday, December 31, 1914.

7. Each drawing is to be accompanied by a coupon (which will be found below) properly filled up.

8. A criticism on the drawings sent in will be published in *The Architect*, and reference will be made to each under the name of the author or a *nom de plume*. (*See coupon.*)

9. Every reasonable care will be taken of drawings sent in, but the Proprietors of *The Architect* will not be responsible for any injury or loss that may occur.

10. The decision of the Editor of *The Architect* shall be final and without appeal in all matters connected with the Students' Sketching and Measuring Club.

11. The winners of the Travelling Studentships, 1910, 1911, 1912, 1913 and 1914 will be *hors concours* for future Competitions of the Club.

SUBJECT FOR JANUARY, 1915.

A measured drawing or drawings with perspective sketch of a piece of furniture executed in wood, of not later date than 1800 A.D.

SUBJECT FOR FEBRUARY, 1915.

A drawing approximately full size of a piece of carved ornament drawn freehand and shaded in monochrome brushwork.

The conditions relating to the subjects for January and February will be published during those months.

Conditions of the Travelling Studentship.

1. The Travelling Studentship will be awarded in July 1915 to the author of the best work sent in during the months of July 1914 to June 1915 (inclusive). In the case of students who send in more than one drawing or set of drawings in any one month, the Editor will in making his award select one only from the work of each month to count in the competition for the Studentship.

2. The value of the Studentship will be Ten Pounds, and the holder will be required to make a sketching tour of a fortnight's duration in a district to be approved by the Editor.

3. The sum of Ten Pounds will be paid in two instalments, half before the student starts on his tour, and half when after his return he shall have submitted to the Editor satisfactory work executed during the tour.

4. The proprietors of *The Architect* shall have the sole right of publication of the whole or any part of the work executed by the student during his tour.

5. The decision of the Editor of *The Architect* shall be final and without appeal in all matters connected with the Travelling Studentship.

"THE ARCHITECT" SKETCHING AND MEASURING CLUB.

COUPON TO BE SENT IN WITH DRAWING.

To the Editor of "The Architect."

I herewith submit for December, 1914, the drawing described below, and I declare that the same has been entirely executed by myself. I hereby agree to the conditions published in "The Architect," both as regards the subject for this month and as regards the Travelling Studentship.

Name .....

Nom de plume (if desired) .....

Address .....

.....

Date .....

Description of Drawing .....

.....

.....

.....

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6,092. March 10, 1914.—Josef Neyer, 54 Rotbuchstr., Zurich. Automatic door closers.

6,579. March 16, 1914.—F. J. Chell, 194 Brighton Street, Seacombe, Cheshire. Cutting duplicate keys or the like from a pattern.

7,782. March 27, 1914.—J. J. Rawlings, 82 Gloucester Road, South Kensington. Plug or socket for screws and other fittings (for enabling them to be secured in plaster, marble, and other materials by increasing the area and grip of the holding surface).

8,373. April 2, 1914. Dated under International Convention, April 2, 1913.—H. O. Johnson, 1623, 1 Street, Sacramento, California, U.S.A. Instrument for preventing the unauthorised actuation of door and like locks.

9,869. April 21, 1914.—A. E. Liscomb, Bar Harbor, Hancock, Maine, U.S.A. Nail-holding attachments for hammers.

Any of the above specifications may be obtained from J. D. Roots & Co.

BRITISH PATENT SPECIFICATION.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

The first date given is the date of application; the second, at the end, the date of the advertisement of the acceptance of the completed specification.

No. 24972. Nov. 3, 1913.—Hinged gully gratings and frames, manhole covers and frames and the like. R. W. Hindhaugh, Surveyor, 6 Lock Road, Ham, Surrey, and Walter Woodrow, 35 Dafforne Road, Upper Tooting, S.W.

FIG. 1.

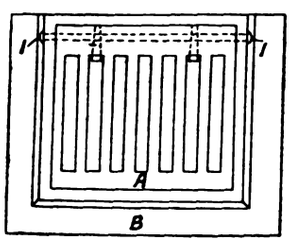


FIG. 2.

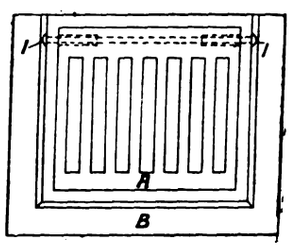


FIG. 5.

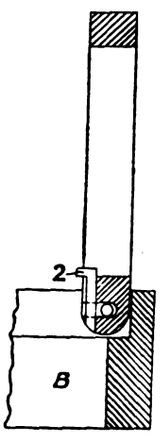
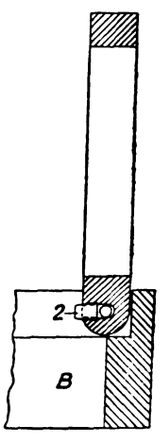


FIG. 6.



This invention consists of improvements in hinged gully gratings and frames, manhole covers and the like, for use upon roads and footpaths of the type of grating or cover which is hinged to its frame by means of a rod extending across the frame, and according to this invention the grating or cover is kept in position, the slot engaging the rod by means of keys, bolts, or pins running across the slot or lengthways of it. Figs. 1 and 2 are plans of gully gratings and frames; figs. 5 and 6 are sections of gratings and a portion of their respective frames (in section) showing the means for fixing the gratings in their frames. The letter A represents a grating and the letter B a frame. The pins 1 upon which the grating or cover A hinges are shown running across the frame B from side to side, and lying within the slot in the underside of the grating provided for the purpose. The locking keys 2 are shown across the slots in fig. 5 in side view. In fig. 6 the locking keys 2 are shown running parallel with the slots. Nov. 11.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

Artists' War Fund.

SIR,—As you were good enough to publish recently an appeal on behalf of the Artists' War Fund, you may like to give your readers an opportunity of knowing the result. The number of works (pictures, sculpture, and prints) contributed as a gift by artists amounted to 414 (in Class A, at £5 5*s.*) and 206 (in Class B, at £2 2*s.*). All of these were subscribed for by the public, and the drawing by lot for distribution was conducted on November 26 by Sir Kenneth Muir-Mackenzie, G.C.B., and Sir George Riddel (National Relief Fund). The total amount realised, together with £9 11*s.* in cash subscriptions, amounted to £2,615 13*s.* The entire expenses of stationery, printing, postage, and the collection and delivery of pictures are being generously defrayed by Mr. Sigismund Goetze, and Messrs. Dickse, of 7 Duke Street, St. James's, were good enough to lend their exhibition gallery for three weeks free of charge and to undertake the collection and distribution of the pictures at cost price. The total amount of £2,615 13*s.* has, therefore, been handed over to the Prince of Wales's National Relief Fund.—Yours faithfully,

O. WYNNE APPERLEY, R.I. } *Hon.*
LOUIS GINNETT, R.O.I. } *Treasurers.*
MARTIN HARDIE, A.R.E. *Hon. Secretary.*

Fair Wages Clause in Government Contracts.

SIR,—Referring to the question asked in the House of Commons by Mr. Tyson Wilson that our firm were violating the Fair Wage Clause in connection with one of our Government contracts, Mr. Tyson Wilson has since had the opportunity of going fully into the matter and has written a letter, a copy of which we enclose.—We remain, yours faithfully, for WILLIAM F. BLAY, LTD.,

H. S. TREHEARNE, Director.

Railway House, Dowgate Hill, Cannon Street, E.C.

[COPY]

House of Commons: November 26, 1914.

DEAR SIR,—Since asking the question in the House referring to the firm of Messrs. William F. Blay, Ltd., I have personally investigated the case and have also examined the time sheets, and have much pleasure in stating that the firm of Messrs. William F. Blay, Ltd., have observed the Fair Wages Clause, and moreover have been paying a higher rate of wages than then prevailed in the district referred to in respect of their hut contracts.

I remain,

Yours faithfully,

(Signed) W. TYSON WILSON.

Patent Office Library.

SIR,—In connection with the establishment in this country of industries hitherto carried on in Germany and Austria, one of the most important points is to obtain accurate information on the technical problems involved. The best available source of such knowledge in this country is the excellent library of the Patent Office, where the easy accessibility of the books is a constant source of pleasure to the readers. Soon after the outbreak of the war the Comptroller found it necessary to close the library in the evening, which prevented inventors and manufacturers who are engaged in the daytime from visiting it. It will no doubt interest many of your readers to know that, at the request of this Institute, the Comptroller has now informed us that he has made arrangements to keep the library open until 6 P.M. on Saturday evenings. Those who wish to profit by this concession may obtain a form of application from the librarian.

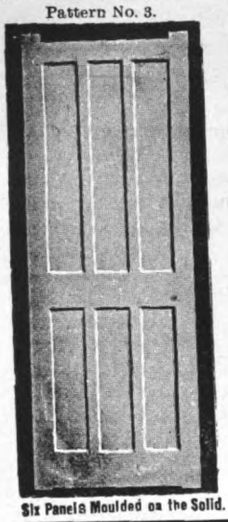
May I take the opportunity of informing British inventors, who evidently form a considerable proportion of your readers, that the letter which you were good enough to publish some time ago inviting suggestions from inventors with regard to the proposed amendment of the Patent Law brought in so many useful and important replies that our Parliamentary Committee is now in a position to deal with the matter when the nation can again turn its attention to home affairs?—I am, Sir, yours faithfully,

WALTER F. REID, Chairman.

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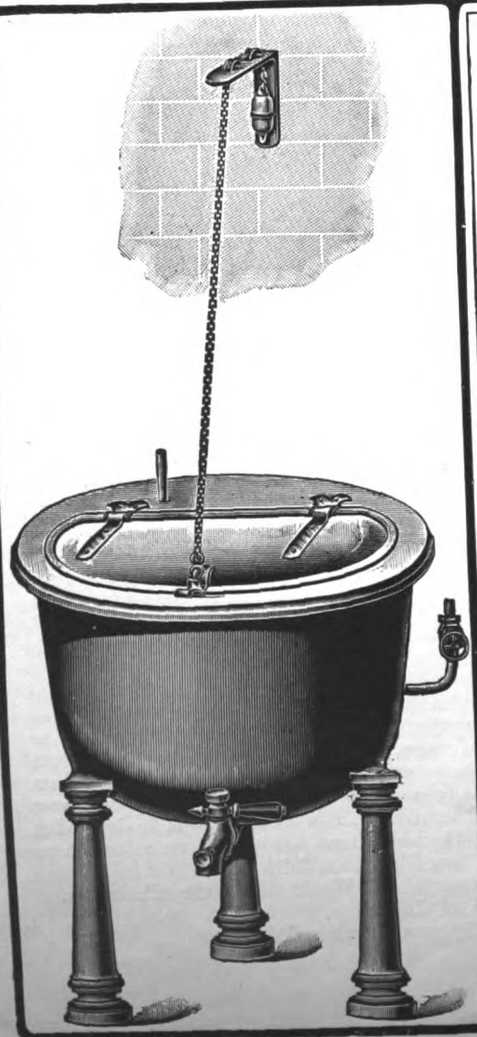
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THE ARCHITECT

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STUDENTS' WORK AT THE ROYAL ACADEMY.

PARTLY from the fact that this is not a gold medal year, but still more from the influence of the war on the Royal Academy Schools, the work this year might be expected to be of less interest than usual. The war influence is shown by a lessened number of competitors for the prizes and by the oft-repeated label "Unfinished owing to the war" which appears on many of the drawings exhibited. But, nevertheless, much good work and greater promise has been shown, as well as the inevitable evidence of the struggles and attempts of novices in architectural design.

The travelling studentship (England) of sixty pounds, tenable for one year, has been awarded to Mr. William Henry Hamlyn, the subject of the competition being "A picture gallery in a public park." Mr. Hamlyn's plan is both practical and architectural, with a long central hall for sculpture, top lighted through a semi-circular barrel-vaulted ceiling and surrounded by two-storeyed galleries, these latter being broken on the minor axis of the plan by the entrance hall on one side and the staircase on the other. The major axis is extended beyond the building proper to include open colonnaded courts at each end. The plans, both in their conception and their draughtsmanship, show the influence of French methods. The general composition of the design is remarkably good, and the detail displays an essentially modern Anglo-French feeling.

Although easily first, Mr. Hamlyn's design is most nearly approached by No. 192, in which the long central hall is cut in half by a central square compartment with a flat domical ceiling, and containing the grand staircase. The design is more distinctly of modern French Neo-Grec type, and is well drawn in the manner of the Ecole des Beaux-Arts. Design No. 193 is the timid effort of one who is on the way to becoming an architect, but is not yet sure of his ground, and confuses Italian and Greek motifs in his material.

The prize of twenty pounds and silver medal for an architectural design done in the schools is awarded to Mr. James Mollison Wilson for his drawings of a public library. The design has a distinct feeling for architectural effect in planning, but is not practical in the relative sizes of its several parts. A large central hall with clerestory lighting occupies too much of the building, the lending library, though well planned, on the open access system, in itself, is too small, and the librarian's private room is relatively immense. The reference library, news room, students' room, and ladies' room are more reasonable. The external treatment is a dignified version of Renaissance Doric.

Of other examples of the same subject, No. 198 approaches, in our opinion, most nearly to the winner. In this case the plan is of fair merit, practical rather than architectural, though marred by a big useless hall. The external composition shows good grouping, with detail of Anglo-French character. The draughtsmanship in pencil and sepia wash belongs to the muddy order too much favoured amongst students of the Royal Academy schools. No. 210 is also more practical and less architectural than the winning design, and in its astylar treatment with semi-circular windows and entrance makes very little attempt towards the grand manner. No. 207 is inferior both in plan and elevations to all the other treatments of this subject.

A problem which seems to have attracted a large amount of attention is the design for a building variously styled a kursaal, casino, or tea-house, to be erected in Hyde Park on the banks of the Serpentine lake. This has rather over-taxed the abilities of the students. No. 205 has a grandiose plan, but is too municipal in its treatment. No. 195 is also grandiose as to plan, though the elevations, which are unfinished in faint pencil line, show a commendable restraint in treatment. No. 203 is the most casino-like in expression, and is intended by the author to be "erected to the gaiety of nations." The gaiety presumably leads to the introduction of distinctly modern motifs with quite a new-art flavour, but much of the detail is lumpy and coarse. No. 211 tries for expression with a Japanesey roof, but the over-involved composition is clearly the effort of a novice in design. No. 196 has not yet progressed beyond the adaptation of text-book Renaissance detail, and No. 199 is of very ordinary character.

An insurance office forms the subject of still more numerous designs. The main office, with space for 100 clerks and public, occupies most of the ground floor, and smaller offices the upper storeys. Most of the plans are fair, and the distinction between the designs is to be found chiefly in the external treatment. No. 194 has too much of the character of a large mansion, and is not sufficiently expressive of its purpose. No. 197 has evidently tried to indicate externally the steel-frame skeleton of his construction, and not unsuccessfully, hence there is a distinct feeling of originality in the use of marble, bronze, and stone in an up-to-date French Neo-Grec manner. No. 200 also expresses the underlying steel frame, but apparently relies upon terra-cotta for the clothing, with rather a warehousey effect. This student has devoted attention to interior colour decoration in quite happy fashion. No. 201 is severe in treatment, with much French feeling, and an introduction of Egyptian as well as Greek motifs. Nos. 206 and 208 are poor in composition and detail, and No. 209 quite ordinary. No. 212 is a fairly good design with a modern French feeling.

The designs for a country house are not very successful, though No. 202, with Mr. Ernest Newton's work for a possible model, is, though "unfinished owing to the war," of fair quality.

For an architectural design (open to first term students only) the first prize of fifteen pounds with silver medal has been obtained by Mr. Harold Clayforth Mason for a design for a public library, which is fairly practical in design, though the lending library has too few book-cases for its area. The exterior is a dignified and correct treatment of Italian Doric with semi-circular headed windows. The second prize of ten pounds and bronze medal has been awarded to Mr. James Gibson Swinton for a tea-house in Kensington Gardens, shown by a good plan, both practical and architectural. The elevations are treated in correct Italian Ionic with semi-circular headed windows, but high-pitched pantile roofs are scarcely in accord therewith. No. 217 is a design for a kursaal of elaborate French character, with a plethora of detail. The draughtsmanship is of the muddy pencil and sepia variety. No. 232 is also a kursaal, sadly lacking in refinement and restraint.

The prize for an architectural design with coloured decoration was not awarded to the only competitor, whose music-room in a mansion lacks appropriateness, and, though the general colour effect is in a quiet low tone,

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the detail is of poor quality and utterly regardless of scale.

There was no competition for the prize for a perspective drawing in outline, with the west front of St. Mary-le-Strand for subject, nor for a set of architectural drawings of the river-front of Somerset House.

The work of the travelling student for 1913—Mr. D. J. Chisholm—is exhibited, and shows a collection of workmanlike and useful studies.

NOTES AND COMMENTS.

THE report of the interesting paper by Professor Percy Groom on Austrian oak and its competitors, which we print elsewhere, should be useful to architects, as enabling them to clear their minds of one of the fallacies that have crept into modern practice. The very name "Austrian" is in itself a misnomer, inasmuch as the timber so-called is for the most part merely shipped from Austrian ports though grown in Hungary. So also is it with Riga, Dantzig, and Stettin oak, and the assumption that has found acceptance with some architects that oak from each of these parts has distinct characteristics is false. The truth is that the environment of a particular tree during its growth has far more influence on the character of its timber than the port from which it is shipped. It would hardly be going too far to say that the oak from different trees in the same forest is capable of variation to at least an equal degree with that from different ports or even countries.

The suggestion made by Mr. Ewart G. Culpin in *Garden Cities and Town Planning*, the organ of The Garden Cities and Town Planning Association, for an organised scheme for replanning and rebuilding the now devastated country of Belgium can hardly fail of approval. A survey of the country as a whole by men qualified to make a practical report is the first essential as preparation for a general plan, in which garden city principles of development should have an important place. Many Belgian towns exist no more except as names on the map, and it is possible that they will never be rebuilt on the same sites. If the reformers have their way these towns will be placed in situations more convenient to modern means of communication. It may, of course, be necessary for health reasons to house the population elsewhere.

Coventry—which, with the wonderful expansion of activity which it has seen in recent years, has been growing in size by leaps and bounds—is none too soon in coming to a decision to prepare a definite scheme for its further development, and a preliminary meeting has been held accordingly. The notice of the meeting set out that the Mayor, aldermen, and citizens intend to make application to the Local Government Board for authority to provide a scheme in respect to land situated in the city, in the parish of Holy Trinity Without and in the parish of Foleshill. During the proceedings Councillor W. H. Grant gave a lucid explanation of the points in the proposed undertaking, which will affect an area of 976 acres, made up of 588 acres in Holy Trinity Without, 376¾ acres within the Coventry boundary, and 11¼ acres in the area under the jurisdiction of the Foleshill Rural District Council. The land involved has a frontage to Holbrooks Lane, extends to Penny Park Lane, returning in the direction of Coventry to a point taking in the whole of the west side of Holbrooks Lane to Lockhurst Lane Station, and reaching to Cash's Lane. A considerable portion of land at Radford and a strip of land on the north side of Lythalls Lane, within the Foleshill Council's jurisdiction, are also included.

We are pleased to note that the Council of the Dublin Industrial Development Association is turning its attention to the manufacture of plate and window glass. At a recent meeting the President (Mr. Michael O'Dea, J.P.) said that at the present moment, he understood, there was only one manufacturing firm of plate glass and sheet glass for windows in the whole of the United Kingdom, viz., in St. Helens. The result was that plate glass for shop fronts and windows, and for the manufacture of furniture, had increased in price 150 per cent., and for sheet glass for windows and such purposes the price had gone up 300 per cent. A crate of common glass that was formerly got for 32*s*. is at present £4 10*s*. There, continued Mr. O'Dea, is an industry which, I believe, can be handled, and successfully handled, in Ireland, as there is an enormous demand for glass, and there is no factory making it in the country, and only one in the United Kingdom, and that so fully occupied and so pressed with orders that it will accept only the most enormous orders. In the furniture trade we cannot finish our work for the want of plate glass, and there is a very big trade open for this class of work in Ireland.

As usual, it is the question of railway rates that troubles the inception of the proposed industry, and it was stated by speakers at the meeting that for the clear glass work the materials are brought from Antwerp, in Belgium. We have in Ireland the necessary materials, in Mayo and part of Donegal, but it was found that the railway rates on it would be too costly, and that it was cheaper to import it from Belgium.

There is no encouragement in that way from our Irish railways, but it is quite possible to start such an industry in this country as the manufacture of clear glass, plate, and window glass, as the prices paid for it now would make it pay. It was a matter that should be very promptly considered, and steps taken to avail ourselves of the present opportunities.

From the *Glasgow Herald* we learn of recent discoveries made in the environs of Culross Abbey Church, a pile whose earliest history is lost in the mists of antiquity. At the instigation of the Crown authorities a good deal of excavation work has been undertaken recently. The vaults, upper and lower, with their fine groined arches, have been cleaned out, and are being pointed in order to preserve them. Some curious dungeon-like passages and hitherto unknown stairways, all bearing the hall-mark of the craftsman's chisel, have been discovered, and the massively built masonry conduits forming part of the drainage system of the ancient monastery have been traced. The Monastery of Culross was a vast place at one time. It covered a space of six acres, some of which to the north are now pasture land and others to the south form part of the Abbey orchard. Building operations were begun in the eleventh century, and the tools of the mason were still being heard within its walls two centuries later. Up the road to the north of the Abbey may still be seen all that remains of the entrance gateway and the little window alongside it, where alms were doled out by the monks. To the south of the masonry wall, which forms the southern boundary of the manse garden, an unsightly brick wall has been demolished and a tumble-down brick house in the same vicinity has been removed. The demolition of the brick wall and the excavation work which followed have revealed a number of very fine Gothic arches in what was the north wall of the refectory and the south wall of the cloisters. Further east the excavations have been designed to reveal what still remains of the chapter house. After going to a depth of 14 feet at some points, through what is almost solely tipped material, the workmen have discovered the circular-shaped centre piers of the chapter house, part of one of the foundation walls, at least 8 feet in thickness, and several massive buttresses, with a base 10 feet square. There is still a large area of land on which the Crown authorities have a right to operate, and it is expected that the soil will be cleared away in order to reveal the underlying masonry. Human and other bones and curiously shaped stones have been found in numbers, but up till now no really interesting relics have been secured.

The vexed question of the difference between a drain and a sewer seems to us to have a new light thrown upon it by the judgment of Mr. Justice Sargant in the action

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of the Hull Corporation *v.* the North-Eastern Railway Company. His Lordship said the question was whether the plaintiffs were entitled to enforce a charge upon the defendants for a sum expended in remedying defects to a conduit lying under Hessle Road, and that depended upon whether it was or was not a drain maintainable by the Corporation. The road under which the conduit in question ran was a cul-de-sac communicating with the back yards of cottages belonging to the railway company. These cottages were erected about 1861 upon land belonging to the railway company. The Corporation had served the defendants with notice to abate a nuisance, and then had done the work themselves. The cost was £139 6*s.* 6*d.*, which was charged to the railway company. The company had paid £47 12*s.* 9*d.*, which was the amount spent upon the drains and the road gullies, but had declined to pay £91 13*s.* 9*d.*, which represented the amount spent upon the 12-inch conduit. They disputed their liability in respect of the road gullies, but, the amount being small, they paid it on condition that such payment was no waiver of their rights in respect of the 12-inch conduit. One of the points to be decided was whether Hessle Road was a public highway, and on this his Lordship said that, although the road had been dedicated to the public as an highway, inasmuch as they were permitted to use it, the soil of the road still remained in the defendant company. With regard to another point raised, he could not think that a single private drain must necessarily be a drain limited to the draining of houses or tenements, and became a public sewer immediately it drained land. It seemed to him that where a drain pipe was used exclusively for the drainage of certain private houses, and the public had no right of access to it, it remained a private drain, although surface water from a road might be drained into it. A public sewer meant a sewer that served the public generally. Whatever rights of way the public had acquired over this road, the ownership of the surface was left in the railway company, and the Corporation had acquired no rights to break it up in order to get at this conduit. The railway company were left in exclusive possession of this 12-inch pipe, and the result was that the Corporation were entitled to recover the amount of money they had expended upon it. He would accordingly make an order establishing their charge, and would give them the costs of the action.

In a paper read before the Illuminating Engineering Society on "Some Lessons to be learned from the present Lighting of London," Mr. Leon Gaster summarised his discourse thus:—

(1) Present circumstances have brought home to the public the vital importance of good illumination. After having experienced such a fundamental change the authorities may be more disposed to make experiments in the future, and the public should appreciate better the need for expert guidance and to recognise the valuable services so far rendered by our society.

(2) After the war is over we may not revert to exactly the same methods as were previously employed; greater attention should be paid to the screening of public lamps with a view to avoiding glare, and the importance of a fairly uniform illumination will be better understood.

(3) Present experience is demonstrating the importance of carefully designed public lighting in the interests of traffic. Excessively brilliant headlights on motor-vehicles are recognised to be inconvenient, and may possibly be restricted when we return to normal conditions.

(4) The attention of merchants has been drawn to the benefits of good shop-lighting. An impetus has been given to "concealed window lighting," and the effect should persist afterwards. Meantime there seems a need for some more explicit advice as to what is permissible. The Illuminating Engineering Society might be of service to the authorities by preparing some suggestions as to how the official recommendations can best be complied with.

(5) The extinction of some of the more prominent illuminated signs has been, from the artistic standpoint, an advantage. It may be decided to make some restrictions as to the nature of such signs, and the localities in which they are permissible, and attention should be given to the preparation of illuminated signs for many purposes and of a more artistic kind.

WAR ITEMS.

THOUGH it has already appeared in the daily Press and may have been noticed by our readers, the words of General Disfurth, writing in *Der Tag*, so exactly express the mental attitude of Germans towards all true culture that they are worth repeating. General Disfurth says:—

"It is beneath our dignity to defend our troops from the accusations hurled against us from the interior and the exterior. Our troops and ourselves owe no explanation to anyone. We have nothing to justify, nothing to excuse. All that our soldiers will do is to destroy the enemy and to ensure victory to our Allies. All that will be well done, and justified beforehand: at least we shall consider it as such. We need not be in the least disturbed by the opinions of other countries, even the neutral ones; and if all the monuments, all the treasures of architecture which are placed between our cannon and those of our enemies, went to the devil, we should be perfectly indifferent. In calmer times we should perhaps deplore them, but at this moment we have not a word to waste over them. *Mars is the master of the moment, not Apollo.* The most modest mound of earth which lies over the grave of our soldiers is more valuable than all the cathedrals and all the treasures of art in this world. They call us barbarians. What does it matter? We laugh over it. We can but ask ourselves if we have deserved that title or not. . . . Let them cease once for all this idle talk, let them cease talking of the cathedral of Rheims and of all those churches and palaces which will share its fate. We refuse to hear of it any more. Let it be from Rheims that we receive the news of a second and victorious entry of our troops. The rest is nothing to us."

IN a special report on German trade with Canada, which has been prepared by His Majesty's Trade Commissioner for the Dominion (Mr. C. Hamilton Wickes), it is stated that Germany's efforts to expand her trade in the Dominion have been characterised by the same thoroughness and efficiency which have distinguished her trade campaigns in other countries. The value of German trade with Canada is small, however, as compared with that of the United States and the United Kingdom, the value of German goods imported during the fiscal year ended 31st March, 1913, having amounted to only about £2,900,000, as compared with £28,500,000 from the United Kingdom and £90,600,000 from the United States

The most important branch of Germany's trade with Canada, apart from specialities (such as certain lines of chemicals, tyres for locomotives, and scientific instruments), consists of low-priced imitations or reproductions of British manufactures; the effect of these is seriously to reduce the value of the retailers' stock of the British-made article. It is the poorer classes which purchase these goods, being in many cases ignorant of quality and value, and their small means drive them to buy a low-priced article in the hope that it is really cheap from an economic standpoint.

British manufactures, which are usually of higher price than the German goods, but of intrinsically greater value, require to be given greater publicity, as well as assistance by first-class selling methods, to enable them to compete with low-priced goods; it is well known, however, that this side of trade is neglected, and in many cases the British manufacturer handicaps himself further by indifferent knowledge of the local market conditions, ignorance of these conditions being fatal in obtaining a due share of the trade to which the excellence of his manufactures entitles him.

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Copies of the report, which also contains detailed statistics of Germany's trade with Canada during the years 1908-9, 1912-13, and 1913-14, may be obtained by United Kingdom manufacturers on application to the Commercial Intelligence Branch of the Board of Trade, 73 Basinghall Street, London, E.C.

COMPETITION NEWS.

Glasgow.—The Corporation, at their meeting last week, considered and adopted the assessors' report on the thirty-eight competitive plans sent in for the buildings to be erected at the corner of Trongate and High Street in connection with the reconstruction of Glasgow Cross. The examiners placed first and selected for the first premium of £50 or for execution the design numbered 18, second the design numbered 14, and third that numbered 12, and recommended that the premiums of £30 and £20 respectively be paid to the authors of the two last mentioned. The names of these successful architects are: 1, No. 18, Honeyman & Keppie, 257 West George Street; 2, No. 14, John M'Kissack & Son, 68 West Regent Street, Glasgow, and William Friskin, Kensington Park Road, London; and 3, No. 12, Alexander D. Hislop, 124 St. Vincent Street, Glasgow. The cost of Messrs. Honeyman & Keppie's scheme is estimated by the measurer at £28,512, inclusive of £2,500 for the cross and steeple.

Stoke-on-Trent.—In a competition for the design of the proposed Central Wesleyan Mission Hall, the assessor, Mr. Ewen Harper, F.R.I.B.A., selected the design of Mr. Reginald T. Longden, Licentiate R.I.B.A., of Leek and Stoke, who will carry out the work. The site is in Hill Street, adjoining the old Market Place. The cost of the scheme when completed will be about £13,000. The result of the competition was: 1, Mr. Reginald T. Longden; 2, Messrs. Withers & Meredith, FF.R.I.B.A., London; 3, Messrs. J. Wills & Sons, Derby.

Swinton (Lancs).—The Swinton and Pendlebury Education Committee have decided to invite competitive plans for the erection of the proposed new Council school at Moorside, the competition to be open to architects resident or having their offices within a radius of fifteen miles of the Council offices. Premiums of £25, £15, and £10 are to be offered for the designs placed first, second, and third in order of merit, the design placed first to become the property of the committee. In the event of the successful architect being employed to carry out the work, the premium is to be merged in the commission. The cost of the building has been fixed at an amount not exceeding £10 10s. per scholar, excluding architect's fees, playground, and furniture; and the school building is to include seven classrooms, each to accommodate fifty children.

ILLUSTRATIONS.

PROPOSED GYDE ORPHANAGE, PAINSWICK.

This is a sketch and diagram plan of buildings to be erected on a fine site above the village of Painswick, in Gloucestershire.

The materials are the local stone walling and stone tile roofing, and the style conforms as closely as possible to the local traditional manner. The architect is Mr. P. Morley Horder, F.R.I.B.A.

PROPOSED NEW PREMISES AND KING EDWARD VII. GATEWAY, WINDSOR.

This design was submitted to and approved by the King for new premises opposite the Round Tower in Thames Street. The owner of the property, Sir Jesse Boot, is giving up a right of way to the river by the side of his new buildings and through an archway to be called King Edward VII. Gateway.

The Thames Street front has been designed to harmonise with the late eighteenth-century character of the old shop adjoining, which has been acquired by the owner of the new premises. A feature of the scheme is the garden at the back, from which the tea-rooms will be approached from the river. Mr. P. Morley Horder, F.R.I.B.A., is the architect.

GHENT.

Though more modernised than some other of Belgium's old towns, Ghent is still picturesque, even if not to the same extent as when Prout made the drawing which we reproduce from "Continental Sketches."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An ordinary general meeting was held on Monday last, the 14th inst., Mr. Ernest Newton, A.R.A., President, in the chair. After some slight formal business, Mr. J. J. Joass, F.R.I.B.A., read a paper on

The Work of the late John Belcher, R.A.

Mr. Belcher was born in 1841 at Trinity Square, Southwark. He spent his life in London, and died last year at no great distance from the place of his birth. His father, Mr. John Belcher, was also an architect and surveyor, who practised at No. 5 Adelaide Place, London Bridge. He was an able man of business, with considerable artistic and musical ability. His mother was a direct descendant of William Woollett, the eminent engraver.

About the age of twenty-one he spent some time in Paris studying especially modern French architecture, and some of the work done in his father's office soon afterwards bore distinct evidence of this influence. In 1865 he was taken into partnership by his father, and commenced an active career as an architect, which only terminated with his death.

In forming an estimate of Mr. Belcher's work and of his very considerable influence on contemporary architecture, there is one aspect which should not be lost sight of. His father practised in the City of London at a period when the traditions of Soane, Donaldson, and their school had by no means died out. He was almost entirely unaffected by the Gothic Revival from a logical conviction that such work was unsuitable to the requirements of his time, particularly in the class of work he was likely to be engaged upon in London City. He sent his son to Paris to study especially the Renaissance work.

The first buildings which bore the mark of the influence of John Belcher, jun., were the Royal Insurance Company's buildings in Lombard Street and the Commercial Union Assurance Company in Cornhill. Some of the sculpture of the former building was executed by Thomas Thornycroft, the father of the present Royal Academician, and illustrates at that early period the importance which Mr. Belcher attached to the allied arts.

Notwithstanding the paternal warnings, he soon came under the influence of the Gothic movement, and in fact became one of its most enthusiastic devotees. He was a contemporary of Sedding, and the work of Godwin, Burges, and Street affected him powerfully. The effects of this change was first noticeable in his work at Mansion House Buildings, at the corner of Queen Victoria Street and Poultry, now occupied by Messrs. Mappin & Webb.

During Mr. Belcher's Gothic period such men as Mr. Harry Wilson, Mr. Needham Wilson, and Professor Beresford Pite were at work in his office, and had he been successful in obtaining a commission for a great public building at this time the result, Mr. Joass had no doubt, would have been notable. This was not to be, however, and most of the work carried out was of a domestic character.

The designs were typical of the best domestic architecture of the time when the great mass of such work was exceedingly poor. They reflect strongly the work of Nesfield and Norman Shaw.

A notable feature of nearly every one of these designs is the garden. This was a subject which specially appealed to Mr. Belcher when the idea of a garden designed by an architect seemed most unusual.

Although keenly interested in ecclesiastical architecture, Mr. Belcher had few opportunities in this direction, and the most important designs were never carried out.

About the year 1875 Mr. John Belcher, sen., retired from business, and his son entered into partnership with Mr. James W. James. This arrangement continued until 1882, Mr. James continuing the business management of the firm until his retirement in the latter year.

Soon afterwards Mr. Beresford Pite returned to him, and in 1885 he became a partner, and much of the work subsequently produced exhibits his influence very strongly. Their conversion from Gothic appears to have taken place about the same time, and the Renaissance soon captivated them. Signs of this change are not wanting in Mr. Belcher's domestic work, and several visits to the Continent seem to have confirmed him in his devotion to the style.

His first important public building, the new Hall for the Institute of Chartered Accountants, was won in competition. It was the lighter and more fanciful phase of Renaissance architecture which appealed most to him at this time, and his mind was strongly stimulated by visits

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to Southern Germany and Vienna. The eccentricities of the late Italian work at Genoa also had its effect upon him, and is reflected in the Accountants' Hall.

At the date of its completion in 1891 this building possessed many novel and almost startling features, though they are no longer thought so, and since then many of them have become so familiar by much repetition as to seem almost hackneyed. Its sound proportion and beautiful detail make it even now one of the most interesting and stimulating examples of the modern Renaissance style in England. Moreover, it is unique in being embellished by the work of two of the most accomplished English sculptors, Mr. Hamo Thornycroft, R.A., and the late Mr. Harry Bates.

Among a number of designs made about this time, chiefly in competition, may be mentioned very fine ones for the South Kensington Museum and the chief offices of the Royal Insurance Company in Liverpool. The latter shows a tendency to the more orthodox lines of the Italian Renaissance, which becomes increasingly apparent in his work from year to year.

About 1895 Mr. Belcher collaborated with Mr. Macartney and the late Mr. Bradley Batsford in the production of "The Later Renaissance Architecture in England." This was a work which absorbed a great deal of his time and interest, and he frequently referred to this time as one of the happiest of his life. One of the best known and most successful architects in America has stated that it is the most useful architectural work ever published. The making of this book had the effect of turning Mr. Belcher's thoughts from Vienna and Genoa to England, and had a great influence upon his subsequent work.

While he was engaged upon this work it was suggested to him that Mr. Joass might have some drawings which were required for illustration. Several were found suitable, and found a place in the book. At the same time Mr. Joass found a good deal of very varied work to do in his office, and in this way a lasting friendship commenced which endured until the day of his death. In 1905 they entered into partnership, and since then worked constantly together.

The leisure which he had enjoyed for several years was interrupted by work on the drawings for the new Town Hall at Colchester. This was won in competition with several other well-known London architects, and was the first of several designs based on decidedly English lines. From this time onward the practice, which was a steadily increasing one, left him little time for further efforts in a literary direction. He found time in 1906-7 to write "Essentials in Architecture."

Representative works of these years are the Colchester Town Hall; the Tower, Pangbourne; Electra House; Cambridge Town Hall; Cornbury Park, Oxfordshire; and the Ashton Memorial.

Mr. Belcher was of a singularly modest and retiring disposition, and he only undertook the Presidency of the Institute as the result of great pressure by some of his friends. The International Congress of Architects took place during his term of office, and, besides presiding at all the principal meetings, he delivered a very inspiring opening address in the Guildhall, and contributed an excellent paper on "The Education of the Public in Architecture."

In the year 1907 he was elected Royal Gold Medallist.

Soon afterwards he was the guest of honour at a banquet given by members of his staff, past and present, who met to give expression to their appreciation of him as an artist and esteem for him as a man. Perhaps of all the compliments paid to him he esteemed this the most. He referred to it as one of the happiest and proudest moments of his life.

In his later years illness interfered seriously with his activities. An increasing portion of the responsibility of the work of these years naturally fell into the hands of Mr. Joass, but Mr. Belcher was most keenly interested in, and in thorough sympathy with, all that was done.

Among the works which are characteristic of these later years are the following: The premises of the Royal Society of Medicine; Holy Trinity Church, Kingsway; offices for the Zoological Society and the Mappin Terraces; and Whiteley's Store.

Mr. Belcher was endowed with a most receptive and inquiring type of mind. New ideas appealed to him irresistibly. He was a draughtsman of no small ability. There is an excellent example in the R.A. Diploma Gallery, showing the complete elevation of the Ashton Memorial. His sketch-books are full of charming pencil and water-colour drawings.

He had a great love for music, and was the possessor of a beautiful voice. In his younger days he was an accomplished singer—in fact, he had serious thoughts of adopting music as a profession. He also performed in many fine public concerts himself, taking the bass solo parts in Elijah, St. Paul, and other oratories. Indeed, all forms of art appealed to him.

DISCUSSION.

Professor Beresford Pite, in proposing a vote of thanks, remarked that it could not have been easy for one so intimately connected with Mr. Belcher as Mr. Joass was to write a paper with such a breadth of view, such wise judicious criticism, and which, he ventured to say, appeared to be in every way just, sympathetic, and accurate. Mr. Belcher's work was as interesting in many ways as Mr. Belcher himself. He (the speaker) did not propose to refer again to his many-sided charm which culminated in an almost affectionate friendship which he created in those who knew him intimately. But his work, whether it was equal in force to the charm of his personality or not, certainly exhibited those wide sympathies, that ready hearing, that power of proportion, that power of assimilation which was so characteristic of modern design and practically of the whole school of modern architecture. If one reflected upon the work of the great men of Mr. Belcher's youth it might be best illustrated by the work of his own father, who was a man of marked character, strong refinement, and a rigid adherence to the classical type of design of a city architect. In Mr. Belcher's youth there would have been all the narrow force of the classical tradition in his father's office, and outside there was the equally narrow force of the Gothic revival. Apart from both was the influence of a few independents. It was impossible to indicate any definite source from which he derived his power of sympathy with so many styles. In that respect he was a leader and characteristic of his generation, which has not yet passed away. Standing among the men of fixed classic tradition and also by the side of men with the Gothic fire he moved in both spheres. The inspiration of Burges is seen in Mansion House Buildings in Poultry—and this in spite of his client, who fancied he was getting a Victorian design. Shortly after came the original Curriers' Hall and then the second Curriers' Hall, for there were two buildings, one soon following the other. The first Hall was built close to the warehouse of a very progressive warehouseman, John Rylands, the millionaire. Rylands' business grew and he purchased the site of the Curriers. The second Hall reflected an ardent zeal for French Gothic and could hardly be credited to the creator of the earlier Poultry building. Mr. Belcher had a profound and affectionate regard for Mr. Norman Shaw and in the early days treasured up all the characteristics of that architect. Later on, when he shared Norman Shaw's friendship, he became an enthusiastic follower. Many of Belcher's former works are illustrative of that tender feeling which a clever architect can bring into an antiquated style. In the domestic direction, perhaps, Mr. Belcher's genius found its direct exercise. He had a quick eye for home life and domestic qualities. His houses sat well on their sites and their gardens became of great interest to him. A large element of originality entered into his garden schemes. His co-operation with Mr. Macartney and Mr. Batsford in the production of "The Later Renaissance Architecture in England" (which caused him to travel all over England) had a considerable influence on his later work. It would have been difficult to find anybody better qualified for that class of undertaking. The effect of the book on current architecture was certainly remarkable and it formed one of the great influences on the young men of to-day. Mr. Belcher was always so modest about his work, so ready to excuse what he called the failures. His marked originality led him into many experiments which might be alarming but which justified themselves. He never repeated himself; he could not do it, for he was always moving freshly from one point to another. An artistic career like John Belcher's seemed to be characteristic of the age. What would it have been, he wondered, if he had been put through the mill of the Architectural Board of Education? Probably Mr. Joass would that night have had a different tale to tell about a man who was in some doubt as to turning to music for a profession, and who also possessed a marked gift for water-colour drawing. There is no doubt he would have done the examinations his father wished him to and that the Board would have passed him. But one trembled to think of the effect on him of the Institute's five years' course. They might well ask themselves if there was not something to be said for the delightful freedom of education

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by which Belcher was able to roam over fields of study. His life leads one to venture to comment on the great importance he always attached to the use of sculpture. From his early youth Belcher was intimate with Mr. Hamo Thornycroft, and this gave him a sympathy with the sculptor's standpoint. How wise it is to cultivate as far as possible intimacy with those engaged in the sister arts! Belcher's friendship to them was exhibited not only in the personalities, but in his employment of those arts.

Sir William Plender (Past President of the Institute of Chartered Accountants), in seconding the vote of thanks to Mr. Joass, said his eyes were gladdened each day when he went to the City by the Accountants' Hall, and it brought happiness to many thousands of people besides himself. The Hall for the Institute of Chartered Accountants would not only make Mr. Belcher famous in this generation, but also in generations to come. The Council of that body had now practically finished the decoration of their Council Chamber —a project in which Mr. Belcher before his death was greatly interested. Skill would not have carried Mr. Belcher as far as he went without a great power of human sympathy. There must also be a great love of work to make a man a successful architect. In conclusion, he would remind them of the old aphorism that "Great thoughts come from the heart."

Sir Aston Webb, R.A., said he would like to speak as an old colleague of Mr. Belcher at the Royal Academy. He did not think that Mr. Belcher could have sat in that room and seen all those designs of his put upon the screen, for he was so modest a man that he would have run away. It was right that the Royal Institute should honour him both for himself and for his work there, since the latter had added an illustrious phase to their history. He had known Mr. Belcher during many years and in a rather trying way, for they were competitors on many occasions. But the results were never allowed to interfere with the personal pleasure with which they always met from the beginning of their acquaintanceship to the end. Their two names were also simultaneously up for election at the Royal Academy. On his (the speaker's) election his first hope was that Mr. Belcher would be the next to get in—and he was. There was no bitterness about the matter. It was difficult to imagine a kinder hearted man or a more modest. Mr. Belcher never talked about his own work. Sir Aston said he had been one of those who persuaded Mr. Belcher to accept the post of President of the Royal Institute with all the onerous work of the International Congress in 1906. Almost the greatest debt the Institute owed him was for the way in which he closed the gap in the profession and made it as representative as it now is of all the architects in the kingdom. It was done in his quiet persuasive way, and with that dignity of manner which ensured that during his term of office those friends of his who had been outside the Institute came in and allowed the Institute to present to the world a body united in the interests of the art. Mr. Belcher took very large views of things. He was interested in town planning; he was interested not only in his buildings, but in their surroundings, which was a most important thing. He was one of the first to introduce modern sculpture into architecture, and he encouraged sculptors to take up architecture. Sir Aston said he perhaps might be thought extremely adventurous if he said he wished sculptors would take up architecture and that the name of the sculptor and that of the architect were attached to any building where sculpture is used, as in France, so that the sculptor would feel he is receiving equal credit with the architect. Everyone knew the enthusiasm roused by the Hall of the Institute of Chartered Accountants. Everyone must regret it had not a better approach. The best memorial to Mr. Belcher would be to clear away the buildings in front.

Sir Goscombe John, R.A., said there was one quality in Mr. Belcher's work which appealed to sculptors, and that quality was the direct result of his peculiarly plastic mind, which showed itself in a marked degree in his architecture. His architecture seemed peculiarly sculpturesque whatever the form he gave to it. All sculptors would, no doubt, be better for a knowledge of architecture; some had some knowledge and sympathy with it. But that was a very different thing from agreement with those who maintained that sculpture is never very worthy when disassociated from architecture. Both are distinct arts, and each should stand on its own merits. The early sculptors were not associated with architecture, but as things progressed they became so.

Mr. Edmund Gosse, C.B., said that if he expressed one or two thoughts in the slightest degree interesting to those present they must be of a personal kind, for he had no excuse for speaking except as an old friend of Mr. Belcher's. He knew him in 1879 as a friend of Hamo Thornycroft—that fine artist and delightful man. Thornycroft and himself were intimate, and were discussing the great subject of the revival of sculpture. In the course of the conversation Thornycroft said there was one architect who had an idea of the use of sculpture in architecture—viz., Mr. Belcher. Mr. Belcher was out of England at the moment, but on his return they were brought together. He possessed a delightful reminiscence of that tour of Mr. Belcher's in the shape of a most elaborate and beautiful pencil drawing from Southern Germany. He remembered how the sculpture for the Accountants' Hall was discussed in advance, the difficulties Mr. Belcher saw, and which he was sure he could overcome. Mr. Joass had not mentioned the scheme of a colonnade in the city which was to employ all the leading young sculptors of the moment in various ways—an idea which was entirely novel at that time. No other architect saw so well the way in which the new revivified and vivid art of sculpture could be employed. Mr. Belcher's modesty was a very singular and telling characteristic. Dr. Brown, the Master of Pembroke College, Cambridge, wrote of the poet Gray that he could not say anything very definite about him because Mr. Gray never "spoke out." Of all the men, said Mr. Gosse, whom he had been privileged to know personally Belcher had in the most singular degree that characteristic of never speaking out. One had to devine his depths of character, his loyalty, his earnestness. He never overcame that inability to speak out. For that reason, in this uneasy age of ours, when the loudest obtain the most notice, it was very delightful and encouraging to find that one so withdrawn and restrained as Mr. Belcher should receive such testimony. That evening was a kind of final tribute to him; it placed him where he should stand, and where he will stand as one of the most delicate and sympathetic artists the nineteenth century produced.

Sir Ernest George, A.R.A., added a few words of appreciation of Mr. Belcher's personal charm.

Dr. Chalmers Mitchell, F.R.S., thought Mr. Joass must be congratulated for the form in which he presented his paper; it was extremely clear, though it must have been exceedingly difficult, in a short space of time, to do what he had done. A great deal had been said about Mr. Belcher's modesty. He, the speaker, had the great pleasure, partly as a client and partly as a friend, of seeing a good deal of Mr. Belcher in the later part of his life. His experience had been that that modesty was particularly a dislike of talking about his own work, and that it arose out of his most adventurous mind, which led him as soon as he had done a work to put it out of his memory. All the time he was living in the present and the future, and not in the past; he was living his own life in his own way. There was no street in "the city in the skies" in which Mr. Belcher would not have been glad to venture and invent new combinations.

Mr. Newton (the President), in closing the discussion, said he had the pleasure of knowing Mr. Belcher for thirty years, and could fully endorse everything said about his modest disposition. He was never indifferent to the movements of his time. It was easy to find a very definite individuality in his work. In 1900 Mr. Belcher was elected an Associate of the Royal Academy, and not very long after a full member. This honour he valued very highly indeed.

The vote of thanks was then carried by acclamation.

Mr. Joass briefly acknowledged the vote, and the meeting terminated.

YPRES.

By J. Tavenor Perry.

The Cloth Hall of Ypres is world famous, and undoubtedly the finest building of its class ever erected in Northern Europe; added to which it is, unlike so many other municipal buildings, perfectly homogeneous in style and built in the finest phase of thirteenth-century Gothic. It occupies an isolated position between the church of St. Martin, which we have just described, and the Grande Place, towards which lies its principal frontage with a length of 436 ft. 8 in.; and although passing always under the name of the Cloth Hall, it is in reality a collection of the principal municipal offices brought together under one vast roof. Among these are the Cloth Hall itself, the town markets for butter and vegetables, the Hotel de Ville, the Halls of

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the Burgomaster, the Aldermen, the "Twenty-seven" and other town offices, some of which are in the building added at a later date at the east end and known as the "Nieuwerck," and above them all surges up the noble belfry to a height of 230 ft. (fig. 1).

This great building was erected when Ypres was a comparatively small town for the use of the makers of the linen cloth, which formed the principal manufacture of the people, and reflects the highest credit on the trades who could so adventure for their common benefit, as well as on their rulers, the Counts of Flanders, who did all they could to support the ambition of their subjects. The structure was begun by the erection of the belfry and the right-hand or eastern wing of the Hall, the foundation stone being laid by Baldwin of Constantinople, Count of Flanders, in 1201, and this portion of the edifice was completed in 1230. The western wing was not finished until 1285, but the design of the older part was carefully reproduced, so that well within the century the magnificent façade as we now see it was built; but the name of the architect to whom the design of this perfect building is due has not survived even in legend.

The belfry rises in the centre of the façade, square on plan, without buttresses or any other such feature to disturb its simple outlines until it reaches to the top stage, where bold and lofty octagonal turrets in two stages, crowned with crocketed spires are corbelled out at the angles at the springing of its spire-like roof. This is crowned by a lofty octagonal lantern, doubtless generally correct so far as the outline is concerned, but substituted for one in the Renaissance style which existed before the restoration. The entrance at the base of the tower leads by a dark vaulted passage, known as the *Donker Poort*, first to the ancient courtyard, whence there is a very striking view of the belfry, and emerges opposite the great south portal of St. Martin. In 1620, however, a new entrance was formed on the principal floor of the building by the erection in the centre of the façade of a lofty and not very sightly perron which has been, and rightly, removed in the recent restorations.

Except for the break made in the centre by the belfry and entrances, there is a continuous arcade of windows and openings, forty-four in the length of each of the three stages. Those on the ground floor are square-headed openings, with corbels under the ends of the lintels, leading directly from the Grande Place into the Market Hall; those to the mezzanine are small pointed two-light windows, while the highest row opening into the Cloth Hall has an arrangement of windows of very great beauty (fig. 2). The arches are acutely pointed, and only each alternate one is pierced and serves as a window, in two lights, having the heads filled in with tracery formed of three trefoils; and the intermediate arch is blank, but filled also with tracery of two lights and a large quatrefoil in the head, each light serving thus as a niche to receive a statue. These were intended to be life-sized figures of the Counts and Countesses of Flanders, and by 1513 there were already twelve statues in position, which were, as proved by fragments of them afterwards discovered, coloured to represent life, a series which must have had a very brilliant appearance, but they were all broken to pieces by the revolutionists in 1792. Those which now fill the niches are the product of modern imagination, and, though labelled with historic names, can scarcely in any case claim to be likenesses. They were executed by the local sculptors Lefévre, Comeyn and Fiers, and by Puyenbroeck of Brussels, in an unsuitable stone, and are fast returning to undistinguishable ruin. Above these windows is the very beautiful parapet which crowns the façade, consisting of a series of small arches carried on

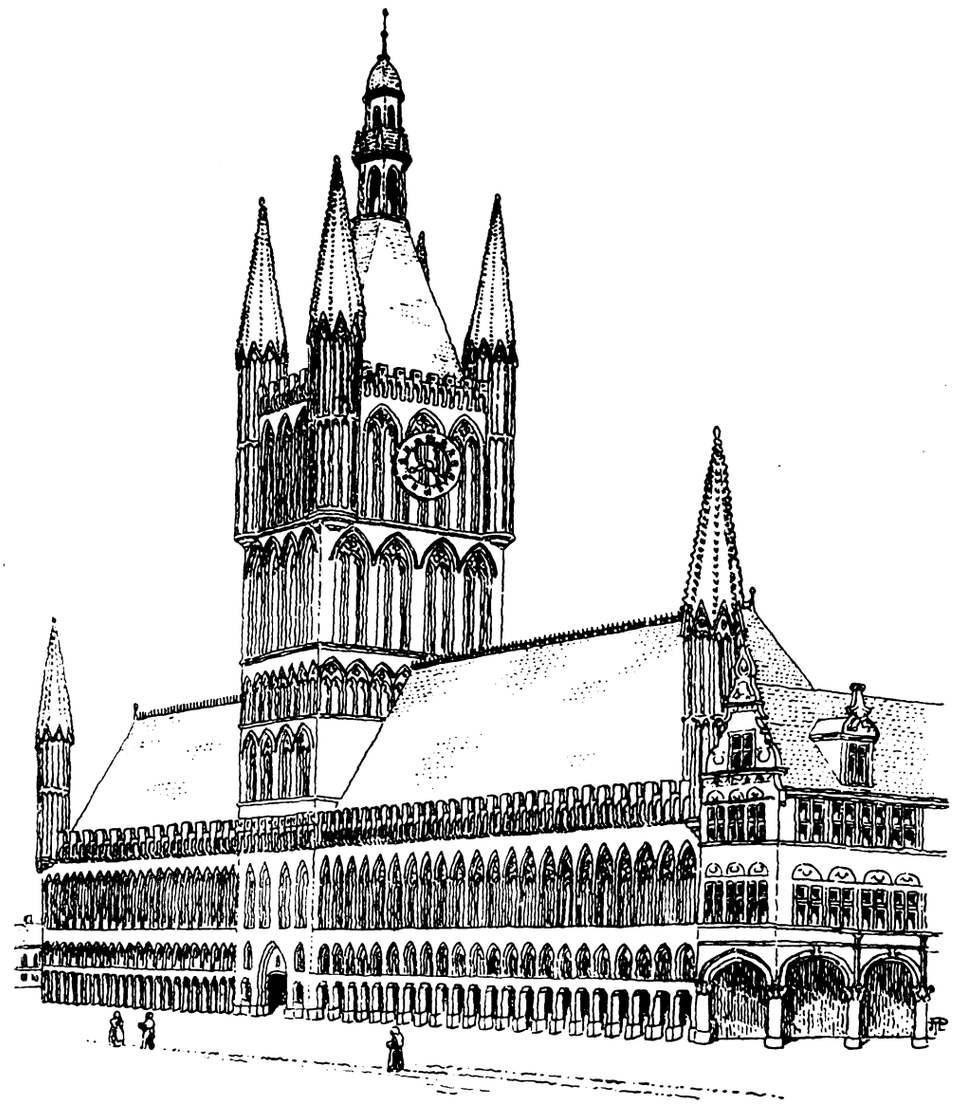


FIG. 1.—BELFRY AND CLOTH HALL.

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corbelled out columns, each alternate arch being crowned with a battlement pierced with a quatrefoil. The cresting of the vast roof is of stone, restored in one of a very friable character and rapidly perishing, while at the two extreme angles rise the great bartizan turrets in two stages with spires and crockets.

and other Belgian towns, with historical subjects more or less recording events in which Ypres was concerned, and the work was executed by, or under the direct superintendence of, Ferdinand Pauwels, of Dresden, who was made responsible for the eastern wing, and Louis Delbeke, of Ypres, to whom was assigned the western part.

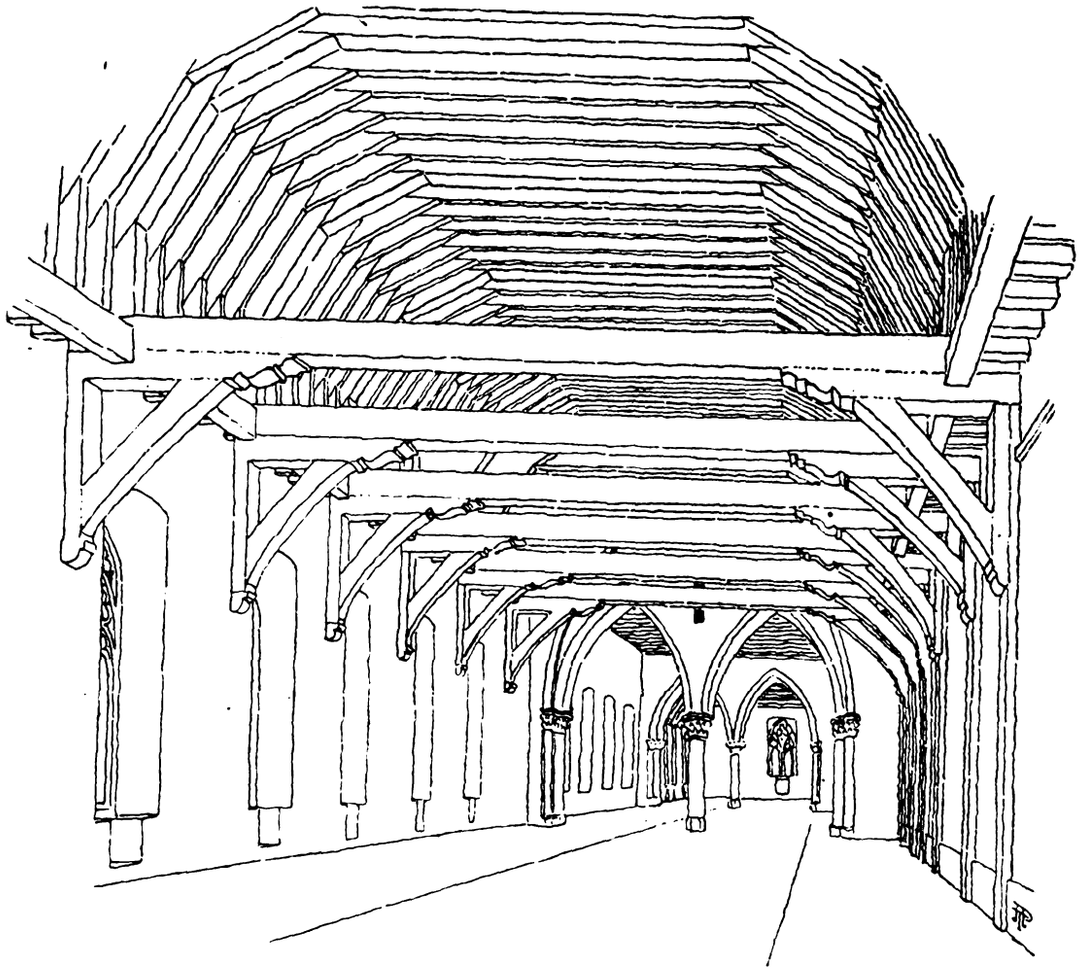


FIG. 2.—TIMBER ROOF OF THE CLOTH HALL AND INTERIOR.

The interior of this great building has on the ground floor a row of stone columns down the centre dividing it into two aisles vaulted in brick and serving as a market place for vegetables and dairy produce. The Cloth Hall on the upper stage, which forms one room from end to end

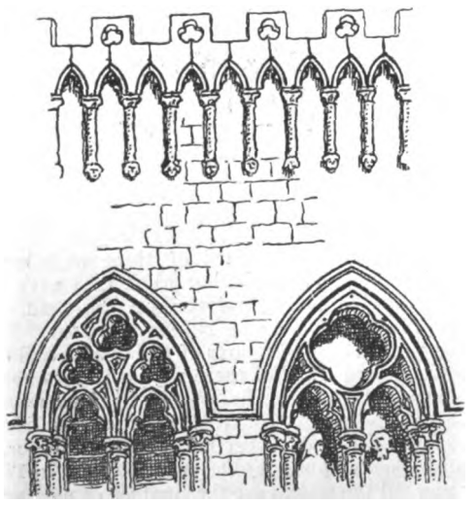


FIG. 3.—WINDOWS AND PARAPET OF CLOTH HALL.

of the building, is covered by an open timber roof in a single span, with great tie-beams stretching from wall to wall, strutted off from wall posts which appear to bear most of the dead weight of the vast roof (fig. 3). The walls of these great halls have been painted, as at Antwerp, Bruges,

We have not space to describe in detail the various other parts of this great edifice, but must give some attention to its addition known as the Nieuwerck. It stands on the eastern face, and forms the return façade towards the Grande Place. It was built between 1620 and 1624, and it is believed that a Gantois architect, Jean Sporeman, prepared the designs for it in 1575; and it shows all the characteristics of the Spanish Renaissance. It is in four stages, the lowest being an open arcade, over which come two tiers of square-headed mullioned windows, and, above the main cornice, four rich two-light dormer windows, with a fantastic gable in the middle which contains the large three-light traceried windows belonging to the Chapel of the Echevins, which is included in the Nieuwerck.

Perhaps the next important municipal building to the Cloth Hall is the Boucherie, which stands facing its south-west angle near the corner of the Rue au Beurre. The lower portion of the façade is of stone and similar in character to the larger building, reproducing on its two lowest stages the windows and openings of the Cloth Hall. The upper part, which is all in brick, is in the late and picturesque Gothic work so common in Flanders, the two gables being particularly rich (figs. 4, 5, and 6). There is also a group of houses, once of a municipal character, standing near the west front of St. Martin's, known as the three "Maisons des Corporations," which seem to have belonged to one or other of the various trade guilds, and have extremely picturesque, though somewhat late, gables (fig. 7). One of these belonged to the Bateliers, and bears on it roundels which are sculptured with ships in full sail.

The house known as the Maison des Templiers (fig. 8) may or may not have been associated with the establishment of that order once standing outside the Porte du Temple founded by Geoffroy of St. Omer in 1127. The house is probably of the same date as the Cloth Hall, and

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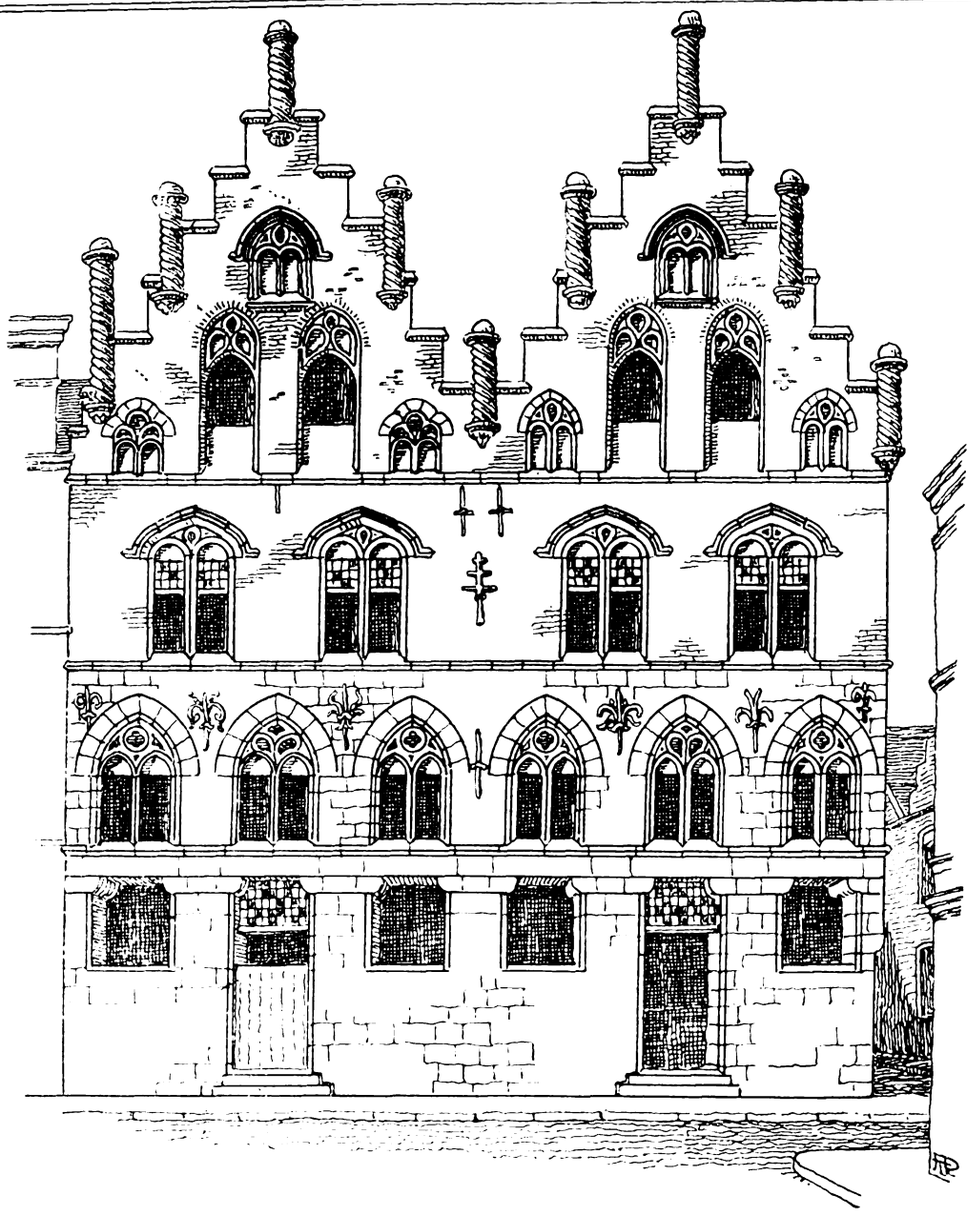


Fig. 4.—THE OLD BOUCHERIE.

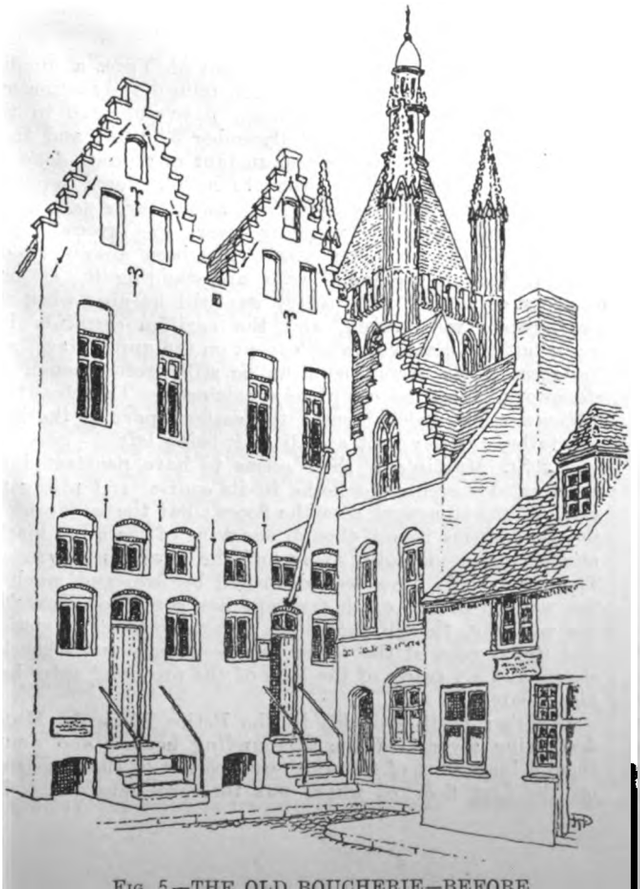


Fig. 5.—THE OLD BOUCHERIE—BEFORE.

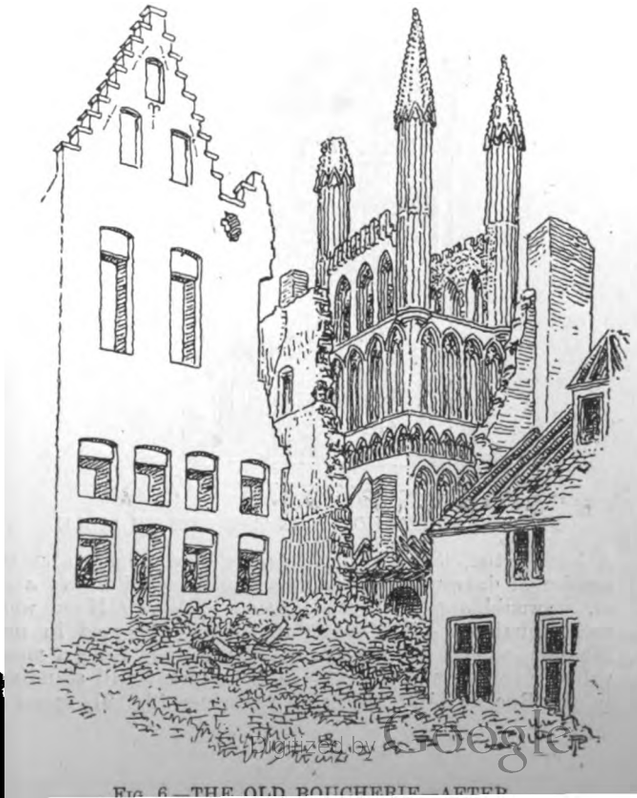


Fig. 6.—THE OLD BOUCHERIE—AFTER.

the upper stage of it, with its three great traceried windows, the bartizan remaining at one angle and the parapet all recalls details of that structure, but, being all executed in the coarse local iron-stone, it has a very heavy appearance. The windows of the first stage have been altered to suit modern requirements, but those of the ground floor remain untouched save for filling in the sashes. Our sketch, which

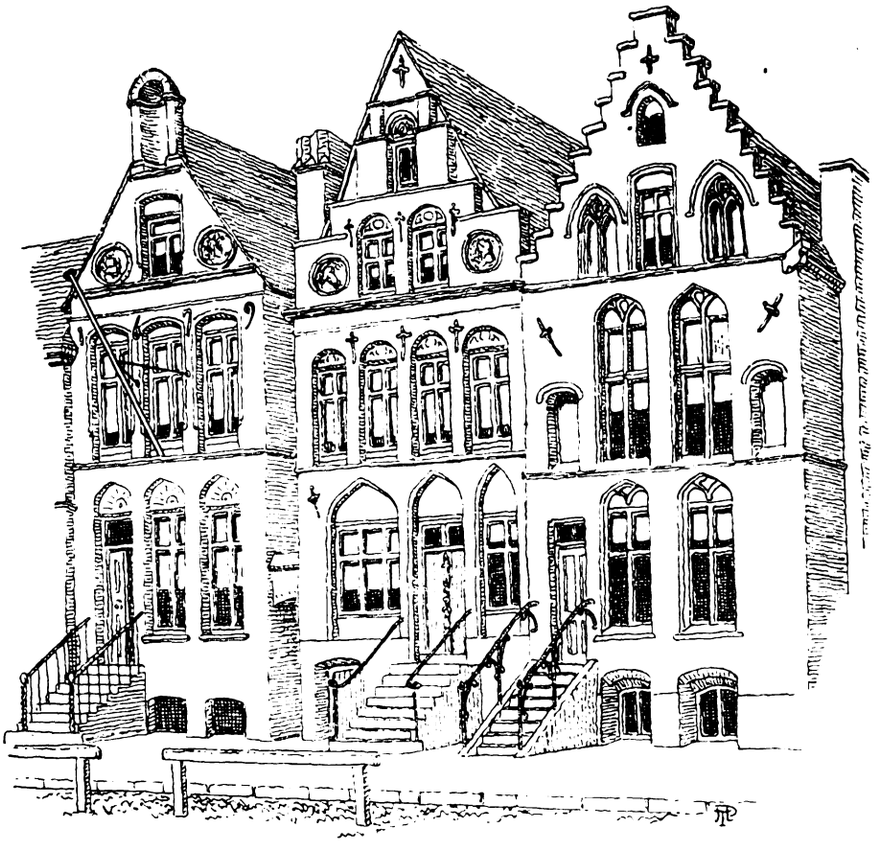


FIG. 7.—LES MAISONS DES CORPORATIONS IN THE CATTLE MARKET.

was published in our last issue, will show its present condition.

Of the wooden house fronts for which Ypres was once so famous comparatively few remain, as the municipal offer made to the townsfolk in 1820 to bear part of the cost of rebuilding them in brick so as to reduce the risk of fire has been eminently successful in reducing their number.



FIG. 9.—WOODEN HOUSE IN THE RUE DE LILLE.

A local artist, however, one Auguste Böhm, made a great number of drawings of those about to be pulled down; and at, it would appear, the suggestion of Victor Hugo who was acquainted with Ypres, they were preserved in the Museum, where, if they are not burnt, they form a most valuable collection. One wooden house front still standing in the Rue de Lille, which we reproduce (fig. 9), seems a type of the simpler forms of which so few survive, but Schayes gives illustrations of several more.

Ypres was much less modernised than most Flemish towns of its size and importance, and every street front exhibited picturesque gables as fine as anything to be seen in Bruges or Ghent, and we can only hope that, even if the more important public buildings have been destroyed, the charm of some Flemish streets may be preserved to afford as much pleasure to future generations as they have given to us, but who, in default of some such survivals, will be unable to appreciate the praise that has been lavished upon them.

Since writing the above description of Ypres a number of reprints from photographs, taken immediately after one of the bombardments of the place, have appeared in the *Illustrated London News* for December 5, 1914, and from these it is possible to gauge the amount of damage done up to date. The Cloth Hall seems to have suffered severely, for all its roofs have been burnt off, and a large part of the interior, including the vaulting over the ground floor markets, which is broken down, has been absolutely destroyed, though the main walls are standing in a very damaged condition. The belfry was still burning when the photographs were taken, and the carillon certainly has gone; but the massive walls, except on the upper stage, and the great angle turrets seem to be still erect, though the stonework must be completely calcined. The beautiful "Nieuwerck" which formed the eastern part of the Hall has fallen entirely, not a wall of it being left.

At St. Martin's a shell seems to have penetrated the vaulting, destroying the flèche in its course, and piling the ruins of the stonework over the floors; but the woodwork of the stalls seems intact, though one wing of the great marble reredos has been blown away and the altar itself wrecked. The wood roofs have been destroyed by fire, and much of the walling of the south transept has gone, together with the vaulting, though the gables appear to be still existing. The upper part of the tower has been very much knocked about, and all traces of the base of the projected spire have disappeared.

Another shell exploded in the Petite Place du Musée, destroying several of the surrounding houses, and among them a large part of the south-east corner of the Boucherie, on the first floor of which was the town museum. The

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photograph shows that all the interior has been burnt out and the floors fallen, and therefore the loss includes a large number of valuable pictures, antique furniture, and the Böhm collection of drawings which we have already mentioned. One such shell fell near the base of St. Martin's tower, at the point marked A on our sketch, and one of the published photographs shows the pit it made in exploding.

The sights which these photographs disclose must have made the angels weep.

AUSTRIAN—AND OTHER—OAK.

IT may be remembered that a letter appeared in "The Times" of October 21 as follows:—

SIR,—His Majesty's Office of Works is inviting tenders for furnishing with bookcases the offices of the Board of Africulture and has particularly mentioned that Austrian oak has to be used.

Surely there is plenty of English oak which can be used for this purpose without compelling our manufacturers to use the products of a country with whom we are at war!

Although the time has gone by when we sing "Hearts of oak are our ships," one cannot imagine the occupants of these offices singing "Austrian oak are our bookcases."

Apparently H.M. Office of Works is not so patriotic as

THE MAN IN THE STREET.

This letter created considerable discussion regarding the merits of different sorts of oak, and it was decided—with the object of bringing about the use as far as possible of home-grown timber and timber grown in the countries of our Allies, preventing the supplies of money to the enemy, and finally disposing of the controversy which has existed—to lay the matter before Professor Percy Groom, M.A., D.Sc., F.L.S., Professor of the Technology of Woods and Fibres, and to ask for a full report from him.

A meeting was therefore arranged to take place at the Imperial College of Science and Technology, South Kensington, on Friday afternoon last, the 11th inst., to hear Professor Groom's report. At the meeting the Right Hon. the Earl of Selborne, K.G., G.C.M.G., P.C., took the chair.

Professor Groom read the following valuable report:—

When I was invited to draw up for your consideration a report dealing with the utilisation of Austrian oak in this country it seemed that the most useful evidence that I could supply would be that dealing with:—

(1) The relative merits of the different kinds of oak obtainable in this country and subserving the same purposes as Austrian oak.

(2) The economic significance of the great demand for Austrian oak in this country.

Also, in order to place before you concrete evidence bearing on the matter, it seemed advisable to supply for inspection a number of authentic specimens of the different kinds of oak considered in this report.

The economic aspect of the question is neither narrow nor small; in particular it is not a mere matter of temporarily depriving an alien enemy of a market for a certain product—Austrian oak. The wider economic significance of the question is rendered clear by the fact that in a majority of cases, where oak is used in the woodwork of better-class buildings in this country, architects specify that the oak shall be Austrian. Consequently if there be available in this country other kinds of oak equal in merit to but cheaper in price than Austrian oak, then the custom of demanding Austrian oak in contracts involves an undue inflation in its price and waste of our national financial resources.

Austrian oak is demanded where lasting decorative effect is the sole end to be attained. The question of the strength of the wood is therefore irrelevant, for the high price of Austrian oak at once excludes it from use for mere constructional purposes.

The kinds of oak-timber regularly available in this country and suitable for decorative woodwork are: (1) British; (2) American; (3) Russian; (4) Austrian; (5) Japanese.

American oak, as a rival of Austrian, can be instantly dismissed. For although some of it is very boldly figured by reason of its deep silver grain, yet the supplies reaching this country are so mixed and varied as regards tint and texture that it is not practicable to secure sufficient uniformity of appearance for better-class work. Moreover in these timbers, derived from several species of oak (*Quercus alba*, *Q. rubra*, *Q. velutina*, *Q. palustris*, and others), sap-wood is frequently included. American oak is therefore not an adequate substitute for Austrian, and is properly relegated to lower-class woodwork.

In order to appreciate the relative merits of the four remaining kinds of available oak-timbers it is necessary to consider briefly their structure and the two modes of sawing them. The main mass of the wood is traversed at intervals by ribbon-like structures running across the grain and directed towards the actual centre of the trunk. When the trunk is cut down the middle, these radially arranged ribbon-like structures, or medullary rays, are visible as glistening bands constituting the so-called silver grain. It is not possible, however, to cut the cylindrical trunk into boards whose sides were all originally directed to the centre: the nearest practicable approximation has to be adopted. The result is that, what I will term the middle boards show relatively long and deep and therefore relatively bold silver grain; at increasing distances the boards on the two sides show shorter and often shallower silver grain. The result is that when two kinds of oak differ in the boldness of their figure, marginal boards of the bolder-figured kind may be far inferior in silver grain to the more central boards of the other. Hence, although Austrian oak generally appears to be somewhat bolder figured than Russian and Japanese, yet its marginal boards may be inferior in figure or indistinguishable from more medium boards of the other two. In fact, if the boards be cut too far from the middle ones, they are very poor in figure and become almost indistinguishable from boards cut in the manner about to be described. Boards cut so as to show the silver grain are said to be "cut on the quarter," or "quartered," and constitute genuine "wainscot" oak.

Boards cut in a direction at right angles to that in which quartered oak is, are "bastard sawn"; they are dull, in so far as they show no silver grain, and are described as "plain oak."

Another character of wood must be mentioned before discussing the relative merits of the different oaks. When drying, including seasoning, wood shrinks least lengthwise, and in a transverse or cross direction it shrinks much less radially than in the direction of the annual rings. The result is that boards of quartered oak shrink less in width, and warp less than do bastard-sawn boards, and the nearer the quartered boards are to the middle one the more marked the lack of shrinking and warping. Hence, in comparing the shrinkage and warping of boards, comparison must be made between similarly cut boards; and, for instance, one must not condemn British oak because bastard-sawn boards tend to warp and consequently crack in drying more than do Austrian boards cut on the quarter.

Of *Austrian* oak the salient merits are that it is mild, of even, open grain, easy to work, and obtainable in boards that are of considerable width yet free from defects. The true wainscot wood of the best quality shows bold figuring due to deep silver grain, and is unsurpassed by others in this respect.

Straight-grained *British* oak is not only exceptionally strong and hard, but shows silver grain as handsome as that of Austrian oak. The fine decorative effect of such British oak is demonstrated not only in historic buildings, but also to an equal degree in modern woodwork, thus proving that the appropriate kind of wood is still obtainable. The conclusions concerning the decorative value of British oak will be given later, when other classes of this wood are considered.

In *Russian* oak, imported from Riga, Dantzic, Stettin, and Odessa, the silver grain is generally somewhat shallower and less bold than that of Austrian (though, as already pointed out, this holds good only for corresponding boards of the two opposed kinds). But inasmuch as some persons prefer the shallower silver grain, this cannot be counted as wholly a disadvantage. It should, however, be pointed out that the boards are so cut that the majority show no silver grain near one edge, which therefore must be cut off to secure a wholly figured panel. Or sometimes, in order to secure wider boards, the Russian log is cut in such a manner that all the resulting boards show nearer one edge a plain band of wood that is actually "bastard cut" and devoid of silver grain. But when Russian wainscot oak is cut to the best advantage it may, *in situ*, be indistinguishable from Austrian oak, or, if showing a difference from this, is regarded as superior or inferior according to the beholder's taste.

While British, Russian, and Austrian oak-timbers owe their strong likeness to one another largely because they are derived from one and the same species or two very closely allied species (or co-species) of oak, *Japanese* oak as at

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present imported is obtained from at least two entirely different species. Despite of this fact, Japanese oak-timber shows so strong a likeness to the European oak-timbers mentioned that in completed woodwork it may readily be mistaken for one of these. Derived from old forest trees, Japanese oak has straight, even grain, and narrow, very uniform annual rings, which nevertheless (in frequent contrast with narrow annual rings of European oaks) have a good percentage of wood-fibres that impart strength and hardness to the wood. Japanese oak certainly has great power of resisting shrinkage, warping and cracking, that are liable to occur in oak during seasoning and drying. For I have seen cases of woodwork in which it was exposed to alternate dryness and moisture, and also in which it was exposed to a severe test as regards dryness and heat (associated with a radiator very close to the wood in a draughty passage). The silver grain, I understand, is, on the whole, a little less bold than that of Austrian oak, yet is sufficiently bold to cause the wood to yield handsome wainscot panels, practically indistinguishable *in situ* from Austrian oak panels.

As regards *plain* (bastard cut) straight-grained oaks of all four kinds under discussion, it is not possible by mere inspection to distinguish these from one another when *in situ* (though this is not true when the magnifying lens and microscope are used).

It is now necessary to consider some special varieties of oak-timber so far passed over.

Set in three classes by themselves are certain kinds of *British* oak.

In the first place there is the highly decorative *burr-wood*, which, however, is too scanty in quantity and too costly to be regarded as other than a furniture wood: it is therefore not a rival of Austrian oak.

Abundant, on the other hand, is a second type of British oak-timber, which is obtained from trees grown in well-lighted situations, and has, in place of straight grain and even texture, twisted grain and varied texture (due especially to inequality in width of the annual rings). The cut wood owes its decorative and varied "figure" not merely to the depth and abundance of the silver grain, but also to the tortuous and obliquely cut grain. This oak-wood, which can be obtained at a lower price than that of Austrian oak, I regard as the finest decorative oak of ordinary colour that is procurable. Yet where the artistic scheme demands greater uniformity or austerity of design a straight-grained oak will be selected.

Absolutely without rival for richness of colour is a third kind of British oak—the famous British "red" or "brown" oak—which is unobtainable from any other country. This unique wood, I understand, can be obtained at present at a price scarcely exceeding that of Austrian oak, which cannot compare with it as regards colour.

In regard to British oak, several circumstances militate against its use. They are:—

(1) The supply is irregular and uncertain. This fact, in turn, reacts on the demand and on the economic policy of the timber merchants in regard to purchase and storage for seasoning. I understand that there is no shortage of large-sized oak trees in this country, and that if the demand were more continuous there would be a satisfactory supply.

(2) A considerable amount of British oak-timber has twisted grain and knots, and architects frequently refuse to accept such wood for decorative purposes, regardless of its most attractive appearance.

(3) Partly connected with this last is the stigma under which British oak rests in regard to its liability to warp, crack, and shake. It is true that wood with twisted or irregular grain is, during seasoning, more liable to crack than is straight-grained wood, but with careful seasoning this tendency can be guarded against. Moreover, when the wood is once fully seasoned for indoor use, such oak in internal woodwork will endure indefinitely without shrinking appreciably or cracking. That this is the case is demonstrated by the superb modern wood-panelling in the Court of Criminal Appeal. But oak wood of this kind is not so well suited to alternate exposure to moisture and draught.

(4) British oak is apt to be more wasteful when cut up, and is harder to work than is the case with the other oaks mentioned. Its wastefulness will doubtless influence the price paid, but will not otherwise affect the consumer. And, as regards difficulty in working, I understand from practical men that this is largely due to lack of practice on the part of workmen, and that country joiners, who are more accustomed to the use of British oak, readily become adepts in dealing with it.

CONCLUSIONS.

The following are the conclusions to be drawn from the facts and considerations already recounted as to the relative merits of the different kinds of oak available in this country and suitable for the same and sole purpose as Austrian oak—namely, for decorative woodwork:—

(1) From the point of view of colour, the supreme place is taken by British "red" or "brown" oak, a unique wood which at present somewhat exceeds Austrian oak in price.

(2) Of oak woods normal in colour, the one giving the highest and most varied decorative effect is that abundant form of British oak which has twisted, irregular grain, including knots.

(3) Where a more uniform scheme of decoration is required, but the satiny surface of "silver grain" is desired, the choice can be made among five kinds of straight-grained true (figured) "wainscot" oak. Of these American oak is excluded from better-class work by reason of its mixed nature and other structural defects. Among the remaining four kinds—British, Russian, Japanese, and Austrian—I can make no distinction. For, although each of these is apt to possess certain characteristics of its own, yet many specimens of all four kinds can be found presenting such similarities to each other as to render it difficult or impossible to recognise their precise origin. In such cases the magnifying lens and microscope in the hand of an expert alone can shed critical light on the identity of the specimens.

3. When a still more uniform, and cheaper, scheme of decoration is required there is available the straight-grained, plain or "bastard-sawn" wood (not showing the glistening silver grain) of the four last-named kinds of oaks. Again, there is no reason, other than economic, to give the preference to any one of these for decorative purposes.

This double conclusion to make no distinction as regards suitability for indoor woodwork among the three European and Japanese oaks is fortified by the fact that even when Austrian oak is specified in contracts, the wood actually used by the builder is very often wholly or mainly not Austrian. This fact alone proves that in Great Britain there are other oak-timbers cheaper than Austrian oak, yet sufficiently resembling it to satisfy or deceive the architect.

As regards *durability* in relation to decay, there is no doubt that all four kinds of oak under discussion would equally be attacked by the worst dry-rot fungus (*Merulius lacrymans*). Nor is there any evidence available that there is any difference in their powers of resisting "worm-hole" attack. The silver-grain effects are durable in all four.

To conclude. From the point of view of *durable decorative quality*, Austrian oak does not deserve its present superior reputation and preferential treatment. From an *economic standpoint* the cheaper British, Russian, and Japanese take precedence. On *political and economic* grounds Austrian oak should at present be excluded, and first choice given to British; while of the two remaining kinds, which are products of our Allies, Russia and Japan, preference might be accorded to the latter not alone because Japanese oak is cheaper, but also because the merits of the wood as now imported need wider advertisement.

May I venture to give two partly relevant addenda? In the first place, the present position of this country as regards the supply of timber emphasises the fact that, through our continued neglect of afforestation, we have not only to import oak that could profitably be grown on better-class soils, such as those of English estates, but we have also to import fir wood at an annual cost of between twenty and twenty-five million pounds, although such wood could be grown on inferior soil too poor for profitable agriculture.

As a second addendum I would like to call attention to the fact that much of the decorative and furniture wood purchased from foreign countries could be profitably replaced by less-known woods now growing in the Colonies and self-governing countries of our Empire. Such a substitution would be feasible were the scheme aided by true enterprise on the part of the governments concerned, who would favour the substitution and proper advertisement of the qualities of the woods concerned.

THE British School at Rome authorities give notice that the open examinations for the Rome Scholarships in architecture, sculpture, and decorative painting, and for the Henry Jarvis Studentship in Architecture, due to be held in 1915, will be postponed for one year. Announcement will be made later of the date by which the works for these postponed examinations are to be submitted. Candidates who would have been qualified to compete for the 1915 scholarships shall not by reason of this notice forfeit their qualification to compete in the postponed examinations.

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SHEFFIELD SOCIETY OF ARCHITECTS.

A MEETING of the Sheffield, South Yorkshire, and District Architectural Society was held on the 10th inst. at the University, Sheffield. Mr. Adam F. Watson, F.R.I.B.A., occupied the chair.

The death was announced of Mr. Swaffield Brown.

A lecture was then delivered by Mr. C. F. Innocent, A.R.I.B.A., entitled "An Architectural Ramble in Belgium."

Mr. Innocent told his audience that as he did not know what would be left of the Belgian buildings after the war, he proposed to speak of them in the past tense. Nowhere in the world outside Italy was there so much good old work in so small an area as in Belgium. The architecture of Belgium was that of towns, not of country houses. The lecturer pointed out that the history of Belgium was one long alternation of work and prosperity with loot and destruction, and for that reason he saw some hope in the present state of affairs, though if the Germans were driven from the land he anticipated terrible destruction of buildings. The ornateness of the church interiors and the floric carvings came in for special mention, and Mr. Innocent contended that the architecture of the cathedrals was inferior to the English cathedrals, and far inferior to the French. Incidentally he held that times of war had been good for art. Belgium, he said, had been the most storm-tossed country in Europe for centuries, and yet through al these years there had been a production of art that possibl no other country had seen. Photographic slides were shown contrasting the former stateliness of Belgian buildings with their abject ruin after they had been pounded by the German guns.

ROYAL ACADEMY SCHOOLS PRIZE DISTRIBUTION.

ON Thursday evening, the 10th inst., the awards of the R.A. schools were announced, and the prizes distributed by Sir E. J. Poynter, P.R.A. In a few introductory remarks Sir Edward said it was the general opinion among the members of the Royal Academy that the competitions had produced particularly good work this year—in fact, better than for many years past. The Still Life was particularly good. The Creswick Prize (£25) and Silver Medal for Landscape Painting would not, however, be awarded.

The list is as follows:—

Design for the Decoration of a Portion of a Public Building, "A Harvest Procession."—First prize (£30) and silver medal, George Vernon Meredith Frampton; second prize (£10) and bronze medal, Alfred Clive Gardiner.

Design in Monochrome for a Figure Picture, "Joseph presenting Jacob his father before Pharaoh" (Genesis, chap. xlvii. 7).—Armitage Prizes, first (£30) and silver medal, not awarded; second price (£10) and bronze medal, Alice Dorothy Cohen.

Compositon in Colour.—£5 each and silver medal each, Marjory Florence Mostyn and Gladys Marguerite Baker.

Cartoon of a Draped Figure, "Urania."—Prize (£25) and silver medal, James Williams.

A Painting of a Figure from the Life.—First prize (£10) and silver medal, Joannes Gaetanus A. Pisani; second prize, bronze medal, Winifred Broughton Edge.

A Painting of a Head from the Life.—First prize (£5) and silver medal, Harold Williamson; second prize, bronze medal, Hilary Francis C. Skinner; *Prox. Acc.*, Horace Edward Quick.

Perspective Drawing in Outline (open to painters and sculptors only), "The Staircase of the Royal Academy from the Vestibule, introducing figures."—Prize (£5) and silver medal, Winifred Beatrice Hardman.

Set of Four Drawings of a Figure from the Life.—First prize (£15) and silver medal, Evan John Walters; second prize (£10) and bronze medal, Joannes Gaetanus A. Pisani*

Set of Three Studies of Drapery.—Silver medal, not awarded.

Drawing from the Antique.—Prize (£5) and silver medal, Dorothea Lake Lyster; honourable mention, Winifred Broughton Edge.

Painting from Still Life.—Prize (£5) and silver medal, Dorothea Leke Lyster.

Model of a Design, "Truth overcoming Falsehood."—First prize (£30) and silver medal, Edgar Allan Howes; second prize (£10) and bronze medal, Alexander Stiles.

Two Models of a Bust from the Life.—First prize, silver medal, Peter Induni; second prize, bronze medal, not awarded.

Model from the Antique.—Prize (£5) and silver medal, no competition.

Design containing Figure and Ornament, "Caryatid for a Chimney-piece."—Prize (£5) and silver medal, no competition.

Set of Three Models of a Figure from the Life.—First prize (£15) and silver medal, Joseph Herman Cawthra; second prize (£10) and bronze medal, Thomas Humphrey Paget.*

Design in Architecture, "A Picture Gallery in a Public Park."—Travelling Studentship (England) £60, tenable for one year, William Henry Hamlyn.

Set of Architectural Drawings, "The River-front of Somerset House."—First prize, silver medal; second prize, bronze medal. No competition.

An Architectural Design.—Prize (£20) and silver medal, James Mollison Wilson.

An Architectural Design (First Term Students only).—First prize (£15) and silver medal, Harold Clayforth Mason; second prize (£10) and bronze medal, James Gibson Swinton.

Perspective Drawing in Outline (open to architects only), "The West Front of St. Mary-le-Strand."—Silver medal, no competition.

Original Composition in Ornament (open to architects only).—Prize (£5) and silver medal, James Mollison Wilson.

Architectural Design with Coloured Decoration, "The Wall of a Music Room with an Apse."—£5 and silver medal, not awarded.

Landseer Scholarships in Painting and Sculpture, of £40 a year each, tenable for two years, have been awarded—in Painting to Joannes Gaetanus A. Pisani and Hilary F. C. Skinner; in Sculpture, to Edgar S. Frith and Thomas H. Paget.

* Disqualified owing to having received the same prize before.

DOMESTIC METAL WORK OF THE EIGHTEENTH CENTURY.*

By WM. A. YOUNG.

IF you want to find out what the common people were really making for each other, you must look into your provincial museums, peep into the windows of curiosity shops, and linger on the doorsteps of the older country cottages. It is a matter upon which we, as a nation, may congratulate ourselves that there is growing up a considerable body of collections largely comprised of these objects of everyday use and life. Such museums are at Canterbury, Maidstone, Lewes, Brighton, Hull, Ipswich, Hastings, Guildford, and Ely. Each has its special features.

Directly you begin to investigate the by-ways of a bygone craft, certain problems present themselves. Study the subject from the standpoint of social economy, and you are helped by writers, like Mr. George Unwin, who can reconstruct the conditions and circumstances of the past on moderately definite and sure foundations. The evidence available discloses the swing of the pendulum between manufacturing interests and capitalistic control. Once in a while the makers of the wares are predominant, but more often the merchants with money at their command had masters and journeymen alike under their thumbs. We are apt to look upon this matter as involving two interests, labour on one end of the see-saw, capital at the other, with the former, according to the caricaturists, usually in the air. The eighteenth-century industrial quarrels, however, were usually triangular affairs, with merchant, employer, and journeyman at the corners.

THE PRACTICAL SIDE OF BYGONE CRAFTS.

If the past story of a craft or group of crafts is studied from the practical side, which is really a somewhat neglected phase, a quite different set of problems is encountered. There are plenty of examples of the work of common workmen, but a very limited literature on the subject. What you can learn of the work must be gathered from the articles available for examination, and if that line is followed certain questions come into mind. Where did the workers

* Abstract of a Paper read before the Royal Society of Arts on December 9, 1914.

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of any period turn for a continuous and regular supply of materials proper to their trades? What sort of tools had they, and who made them? How did they distribute their wares after they were finished? These, briefly, are the questions I want to try to answer in relation to the metal trades of the eighteenth century, chiefly on the domestic side.

There is a supplementary question arising out of the others. How does it happen that the quality of the work varied so much? Take such a commonplace thing as a gridiron. Why were some of them so elaborately wrought? Some may be ornate in detail and accurately fitted together, while other specimens of like or similar wares are pretentious and unsatisfactory in workmanship, or again simple in form, appropriate to their purpose and admirably made. How can you account for these differences?

To my mind, nothing calls for more admiration than work exhibiting an economical use of material to produce a given result. The simple is often more artistically true than the elaborate, and the maker of a simple article is often a first-rate workman. Differences in artistic merit, workmanship, and style must have been chiefly due to the capacity of the worker, or to natural aptitude. Some were imperfectly trained, or they may have been careless, but others were hampered by the quality of their materials. A third reason for difference in results would have been in the tools. Some men must have possessed too few for their crafts, and those not always the most suitable for the work they had to perform.

WHERE THE MATERIALS AND TOOLS CAME FROM.

Concerning the materials, you can get a pretty good idea of the position from Yarranton's treatise entitled, "England's Improvement." It is a little earlier than my period, but it is most amusing. Had Yarranton lived in these times he would have been a Tariff Reformer, a whole-hogger. His biting comments on Continental iron shipped to London in competition with native bars from Sussex and the Forest of Dean are thoroughly illuminating, and the reader soon learns that profit before patriotism is not a characteristic peculiar to the twentieth century and a state of war.

The tool problem is, perhaps, the most puzzling of all. The literature on the subject is scrappy, scattered, and rarely contemporary. The examples in our museums are put into cases without any sort of chronological sequence. Nor can you blame the curators of these places for the lack of arrangement. Tools descended from father to son, or passed from employer to journeyman, or from man to apprentice. Most of them were doubtless worn out ultimately, and discarded. A few were left in buildings in course of construction, or became hidden in shops where the trades were carried on. They have been found in the demolitions preceeding reconstruction, but that fact is more likely to hinder than help those desirous of allocating them to their proper place in the history of manufactured things.

England of the eighteenth century might have been, although it was not quite, independent of outside sources of supply in the metal trades. Iron, copper, tin, and lead were all native materials; brass and pewter she alloyed, the former in Bristol and Birmingham, and to a lesser extent in London. The craft of the pewterer was mainly a London trade, though it was also followed in the provinces.

HOW THE WORKS WERE ESTABLISHED.

Before the days of steam three things were necessary to the establishment of a successful works: natural power, mechanical means of converting power into work, and air-blast. The situation of an ironworks was determined by the possibility of fixing a water-wheel. The efficiency of the works depended largely on the hammer. The quantity of material produced must always have been roughly proportionate to the number and quality of the bellows.

These were considerations which, more or less modified, must have harassed every eighteenth-century manufacturer engaged in winning merchantable metals from native ores. It was not until Watt, Boulton, Cort, and the Darbys came to the front that rapid progress was made. It is curious to notice how the metal trades of our period were hampered because inventions lay undeveloped. Dud. Dudley discovered the way to smelt iron with coal about 1619, but it was 1735 before the Darbys began to use coke freely at Coalbrookdale. Even then progress was slow in other places, and as late as 1788 charcoal was the fuel burnt in most of the Sheffield furnaces.

The transition from the tilt hammer to the rolling mill was not so slow, but the old method has lingered right down to the twentieth century. It is quite a mistake to suppose that the steam-engine rapidly replaced the water-wheel. Twenty-two years ago, said the author, he had a share in demolishing a water-wheel that had supplied power for three generations in an engineering shop employing two hundred men. It drove the foundry blower, all the shafting in the machine shop and sawmill, and a fan for eight forges. The weight of evidence proves that although Boulton and Watt made the manufacturer's decision easier when he had to choose his location, that decision still leaned towards a water site.

How slow the change from wheel to engine really was has been shown recently by Professor G. J. F. Lloyd in his book on the Sheffield cutlery trade. In 1770 the Rivers Don, Loxley, Rivelin, Sheaf, with some smaller streams in Hallamshire, were turning 133 wheels, and operating between them nearly 900 grindstones, while twenty-eight other wheels were driving as many rolling mills, tilt-hammers, and forges. A quarter of a century later there were 118 wheels and five steam-driven works. The higher efficiency of the newer power is shown by the figures. Twelve wheels on the Don then drove 332 grinding troughs, but three of the five steam-plants accounted for 320 stones. Seventy years later, in 1865, there were still thirty-two wheels on the rivers in the district.

THE EVOLUTION OF THE MOULDERS' ART.

The records of the century prove that the little masters were not behind the manufacturers, and that they rose to the possibilities of improving materials, tools, and methods. The Sussex moulder who cut a twig from the hedgrow in 1615 in order to ornament his fireback belonged to a race of whom Professor Lethaby wrote that they "knew nothing of art, but wrought it; talked nothing of beauty, but thought it," decorating what they made "with a childlike directness."

The simple backs of the Sussex "sand-rats" possess a value all their own, but none would wish to reproduce them for use again, whereas the collections of late eighteenth-century models in some of our older foundries have been utilised over and over again, and remain as welcome as anything the latest art schools can give us. It is a fine tribute to those artists that their designs are so readily adaptable to modern fireplaces.

Until the foundry business was shifted from the South-Eastern countries of England to the Midlands and Scotland, the casting of iron for domestic purposes seems to have been a singularly restricted trade. Cannon was the chief output, but firebacks and andirons must also have been made by the hundreds. The irons served to support the wooden logs on the hearth, while the backs protected the brickwork from the fierce heat of the burning wood, and incidentally served to ornament the centre of many an English home. As soon as the more energetic Midlanders and Scotsmen took up the trade they branched out in all sorts of ways.

PROGRESS IN KITCHEN UTENSILS.

Thus we read that at Carron in 1784 the works were turning out kitchen ranges, which had been invented earlier than that by Bodley, an Exeter man, grates and stoves, kettles, teapots, saucepans, and frying-pans, which are described as "neatly and solidly tinned." There is a catalogue of some of these items in the Victoria and Albert Museum, but it is a little later than the eighteenth century, for the water-mark in the paper is 1810. That catalogue comprises a good many additional items, such as window fittings, axle pulleys, knockers, and a wider range of pots and pans than the Carron list suggests.

The transition from copper to iron for kettles had certainly begun in 1754, for in that year W. Johnson applied for a patent relating to their manufacture. He proposed to take "an iron barr and hammer or roll it in a rolling mill to such size or substance as might be necessary for the size of a kettle, boyler or furnace." The sheets thus produced were to be put together with iron forge rivets in the same manner as copper ones.

A plain black iron cooking-pot is not entirely nice, and that fact was recognised early in the trade. In 1673 one William Chamberlain took out a patent for a method of "plating tynning of iron, copper and brass." His method appears to have left something to be desired, for more than ninety years afterwards Maurice Clifford applied for a patent to "tin copper which is wrought and pickled and then freezed in the inside on a stake as rough as a coarse

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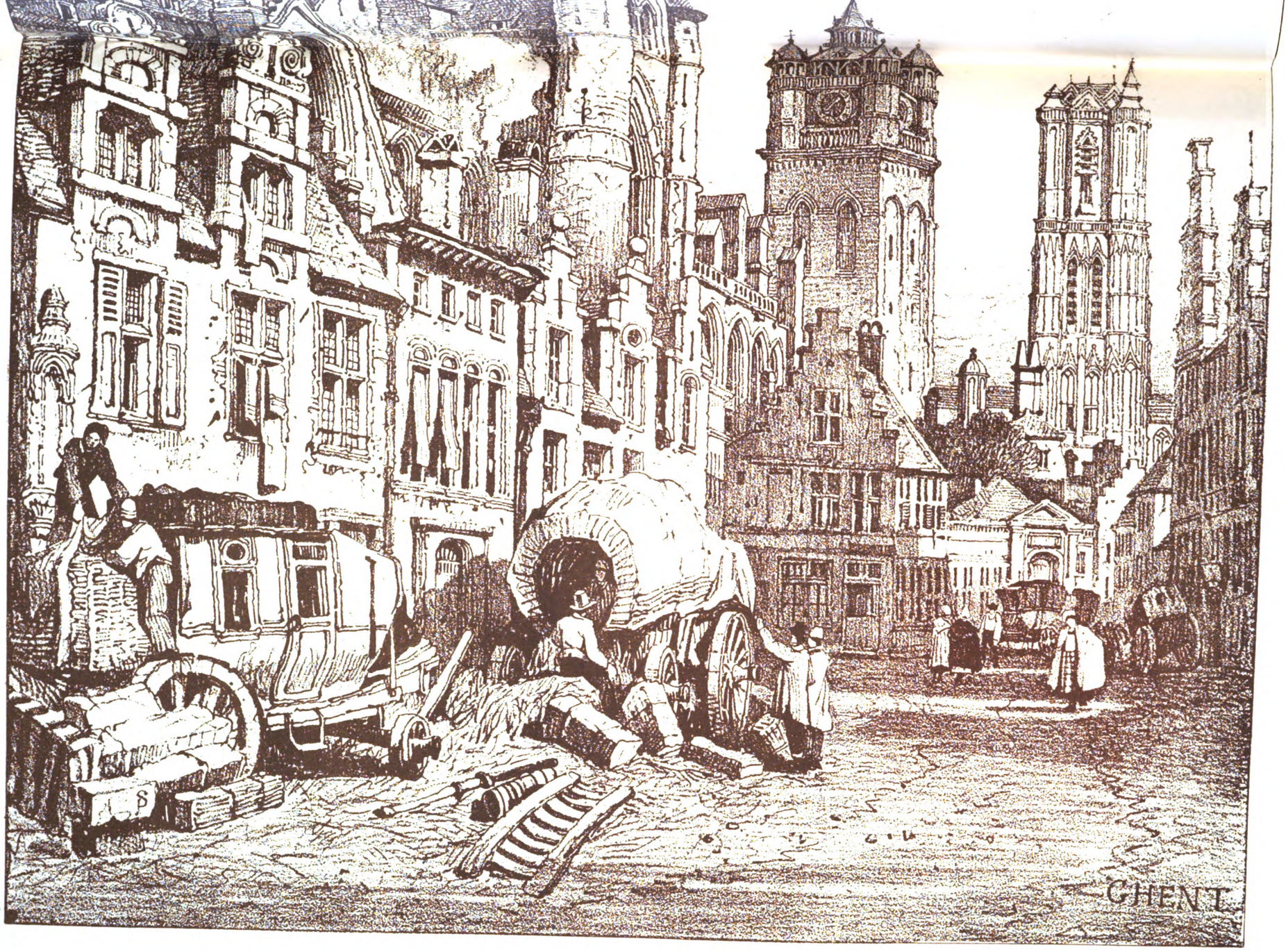


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From "Continental Sketches," by SAMUEL PROUT.

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(Royal Academy Exhibition, 1914.)

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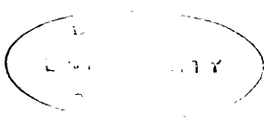
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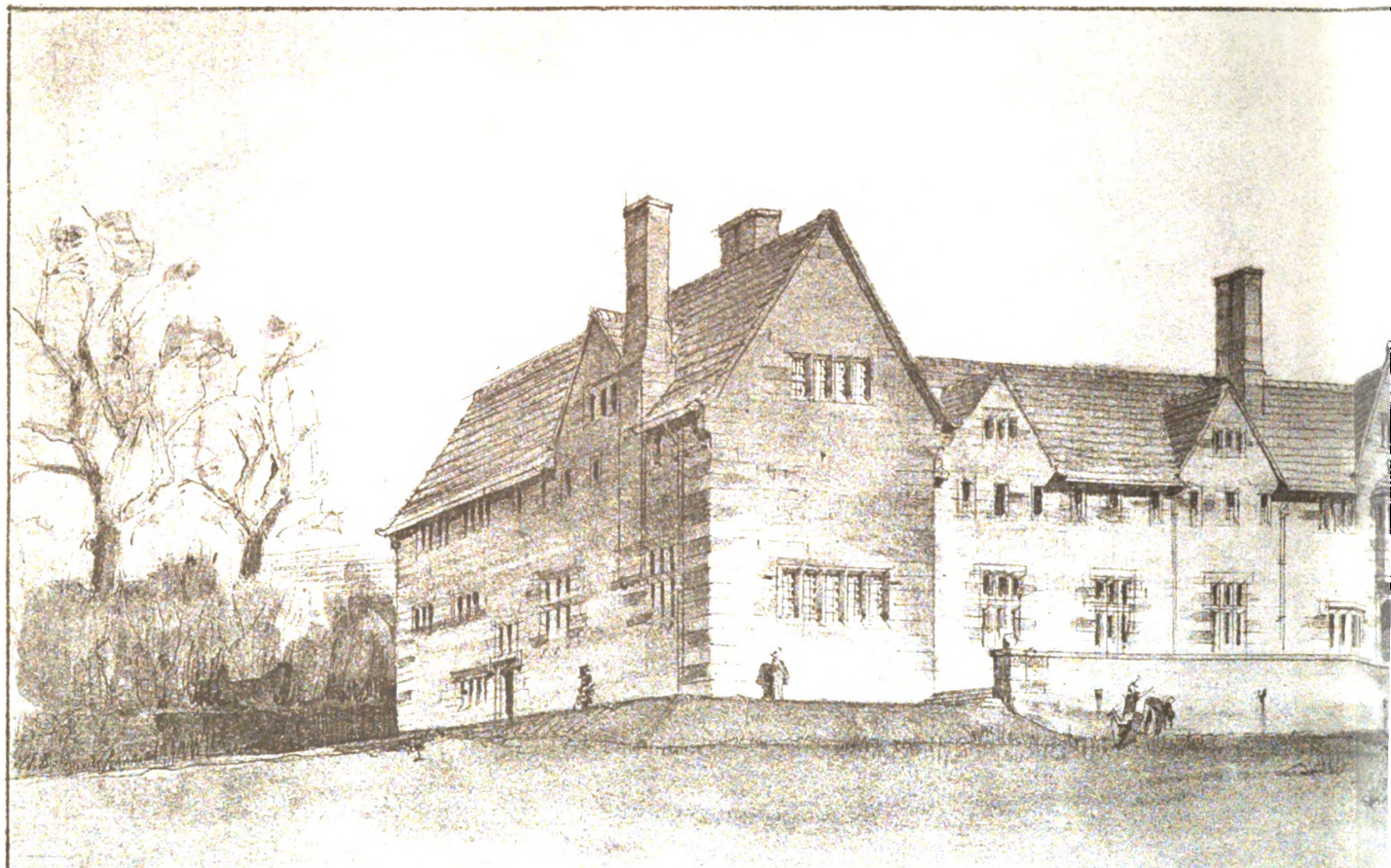
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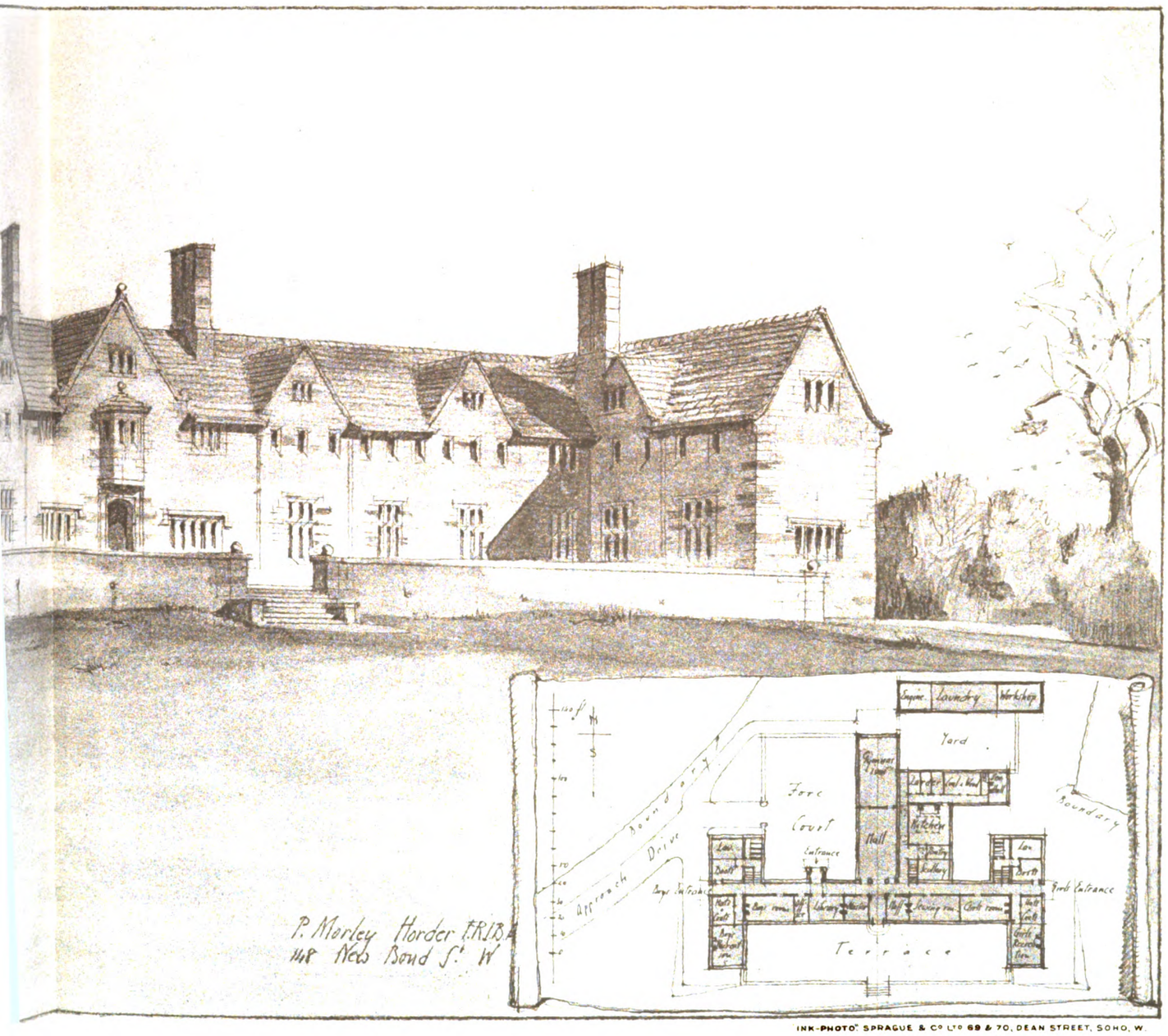


THE PROPOSED GYDE ORPHANAGE
PAINSWICK, GLOS.

(Royal Academy Exhibition, 1914.)

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Dec: 18th 1914.



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file or any other method of freezing which opens the pores of the copper and makes the tinning penetrate." Before the end of the eighteenth century one Hickling had discovered means of coating the inside of culinary utensils with an enamel glaze.

THE ART OF THE DOMESTIC SMITH.

Enough of pots and pans; but before dismissing iron some notice must be taken of the domestic smiths. There is possibly no more fascinating craft; it is of great antiquity; it is full of variety, and has always been marked by originality and individuality. Those last-named characteristics had free play in the past, and they will never be entirely eliminated, even in an age when hard work is relegated to the machine-run shop. The man who can take a bit of iron or steel and fashion out of it some useful or ornamental article with a hammer in his hand and the design in his brain is a smith, no matter whether the product of his labour is a simple horseshoe, a highly decorative fitting like a chimney crane, or a tempered instrument. If you will examine carefully the domestic ironwork of the seventeenth and eighteenth century at the Victoria and Albert Museum, you will reach the conclusion that the work is honest hammer-and-anvil work. Those men used the drill sparingly, relying upon punches for holes, and fullers and sates for fashioning the tenons that fitted them.

A good deal of the individuality that characterises the smith's work must have been due to the way the work was carried out. Until repetition of patterns became general, the builder would finish his share of a job before the smith came on the scene. Then he would make his crane to the chimney, his grille to the finished door-head, or his lantern-holder to the gateway. Not invariably, but generally, the ironwork would represent the smith's own ideas of fitness, and that accounts for much that is fresh, artistic, and human in wrought-iron work. Those old smiths had a splendid control over a somewhat hard metal, and they exercised a fine restraint and a commendable economy in the quantity of material they put into a job.

OF THE BELL-FOUNDER'S PART.

Passing on to copper and its alloys, it is clear that at the beginning of the period brass and bell-metal were used for making cooking utensils for the kitchens of the well-to-do and merchant classes. These were cast in the bell foundries, of which there were a large number in London and the provinces. It seems not unlikely that the decay of bell-founding in the eighteenth century was accelerated by the increasing encroachment of cast-iron cooking utensils. When the orders for skillets and mortars fell off, the bell-founder may have found it hard to keep his works going. Church bells are not wanted every day. In London alone there used to be bell-founders in Shoe Lane, All Hallows in London Wall, Windmill Hill in Clerkenwell, Fleet Street, and Whitechapel. There are only two such foundries left. That in Whitechapel has been carried on continuously since 1567. Lester and Pack, who owned it in 1762, cast a bell in that year in the precincts of Westminster Abbey, which fact remins us that the founding of a bell in a churchyard—sometimes even on the floor of the church beneath the belfry tower—was commonly practised in the country. The method saved a lot of hauling and lifting when the bells came to be hung. On such occasions the people seem to have seized the opportunity of renewing their pots and pans. Thus we read that when a bell was cast at Bridgewater in the thirteenth century 36*s*. 2½*d*. was received for "three leaden vessels with two trivets, one bason with laver, pots and brass that have been sold." In the London Museum, now so worthily housed at Lancaster House, there are two capital mortars which were cast at Whitechapel during our period. The establishment of iron-foundries in the Midlands, which were managed on factory lines, must have seriously affected the prosperity of the bell-founders.

While the domestic end of the bell-foundry trade was decaying, there was growing up a remarkable industry in Birmingham, which owed its growth to the increasing wealth of the middle and lower middle classes. With more money to spend there was a surplus after things to eat and wear were provided. Men, and particularly women, began to look around for more things to use, and naturally furniture began to attract attention. If half the eighteenth-century furniture offered in our curiosity shops is genuine, cabinet-making in those days must have been a prosperous and profitable trade, and its prosperity was reflected in Birmingham.

(To be concluded.)

ART IN LONDON.

BELGIAN MISSION OF ART.

THE McLean Gallery in the Haymarket is, at this time of writing, housing some works which must hold a special appeal to the British public. They form the first collective exhibition (in London) of Belgian Art, and this would in itself provide an attraction; but, taken in conjunction with the fact that Belgian artists (who remained in their country and were ruined by the war) will benefit by the proceeds of the Exhibition, the freemasonry of art will experience a special impulse beyond what might have been otherwise made manifest. A certain thrill is inseparable from other sensations by reason of the knowledge that all the works exhibited "were conveyed at great risk past the enemy's lines."

With the above in mind, we should in any case approach the McLean Gallery prepared to view generously, were generosity needed from the standpoint of criticism. But there is work on exhibition which needs no apology, no generosity, no reservation, and justifying the use of the word "masterpiece"—a word which should not be lightly employed, however. Of such calibre are the late J. B. Meunier's etchings, "Forbidden Reading" and "Rubens" (the latter quite Rembrandtesque in treatment), M. L. Cluysenaer's "Type of Old Peasant, Brabant," and above and beyond these are G. M. Jacqmotte's "Flowers," and "Chrysanthemums"; this artist has produced unusually fine flower-pieces, which do not so much compel as successfully invite our admiration. Some reserve, in portraying the flower-pattern of the table covering is, however, necessary. The same artist's "The Lady and the Mirror" is also notably good, particularly in the modelling of the hands and the painting of the filmy blouse; the mirror-reflection is not pleasing.

M. Jean Gouveloos has an effective drawing in "Belgium Unchained," but, seeing that the lady is bound by ropes to a tree, the symbolism of the design is none too apparent. M. Geo. Bernier's "A Belgian Field Fore-carriage" is virile work, the horses being depicted with great verve. M. Hagemans in "Sheep at Campine" and "On the Banks of the L'Escaut" has meritorious work, exhibiting a pleasing feeling for mystery. M. Langaskens (unfortunately a prisoner) is largely represented on the walls: his work is mainly decorative. The swans in Nos. 34 and 37 (the latter an etching) are very realistic.

Professor Smits shows very pleasing work in "A Summer's Day" and "Pond near Brussels," nor is his "Woodland Glade in the Forest of Soignies" to be disregarded. M. Henri Thomas has commendably good exhibits in his etchings, worked by a new process direct on the plate by means of special pencils. Professor Louis Titz also deserves appreciative notice, especially for "Jamoigne" (executed very much in the style of Whistler) and "Portique St. Rock, Brussels." M. Werleman, the largest of all the contributors, deserves particular mention for "Private Fishing Ground, Tervueren," "Watermill at Grimberghen," and for his Norwegian drawings. Other artists whose names should be mentioned are MM. Taelmans and Danse. We have, of set purpose, avoided adverse criticisms even at the risk of an accusation of want of discrimination. But the Exhibition is one which fully merits public attention, irrespective of the special attractions referred to at the commencement.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Wargrave.—Parish Church: extension.

BUCKINGHAMSHIRE.

Chesham Bois.—Catholic Church.

CAMBRIDGESHIRE.

Cambridge.—Lunatic Asylum: extension. Mr. A. P. MacAlister, F.R.I.B.A., architect, Regent Street.

CHESHIRE.

Delamere.—Parish Church: additions.

Haslington.—Public Elementary School, Oakhanger Moss (for fifty places).

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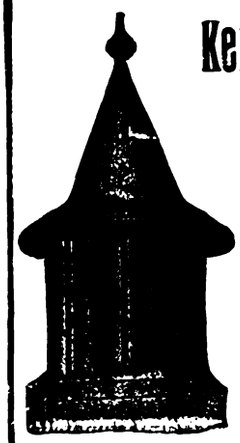
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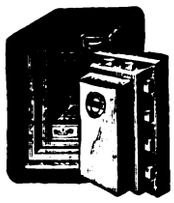
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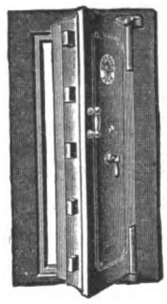
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ENGLAND—*continued.*

CORNWALL.

Falmouth.—Workmen's dwellings, the Penwerris site.

CUMBERLAND.

Broadwath.—Farmhouse, Hen Moss: additions. Mr. J. Slack, architect, 18 Bank Street, Carlisle.

DERBYSHIRE.

Bolsover.—Council schools, Shuttlewood (for 320 places).

Chesterfield.—Council school, Jawbones Hill, Derby Road (£5,500).

Council school, Soresby Street: re-building (£6,400).

Chinley.—High Peak Isolation Hospital: proposed extension. Mr. C. Flint, architect, 5 The Quadrant, Buxton.

Marston Montgomery.—Public elementary school for 120 places.

DEVON.

Kingsbridge.—Cattle Market. Messrs. Carder & Carder, architects, 4 Buckland Terrace, Plymouth.

DURHAM.

Brandon.—Byre, Scouts' House Farm, for Messrs. Cochrane & Co., Ltd.

Hospital, Sleetburn Road.

House, Meadowfield, for Mr. H. Pye.

Chester-le-Street.—Children's Homes, for B.G. (£2,750).

New Brancepeth Colliery.—Two cottages, Eshwood Street: alterations, for Messrs. Cochrane & Co., Ltd.

ESSEX.

Chelmsford.—P.M. Church, Rainsford Road (£550).

Felsted.—Four cottages, Bannister Green, for Dunmow R.D.C. (£600).

Ilford.—Proposed Central Library (£9,500).

Saffron Walden.—Isolation Hospital. Mr. H. R. Bird, architect, St. Thomas's Gate, Brentwood.

Stebbing.—Four cottages, The Downs, for Dunmow R.D.C.

GLOUCESTERSHIRE.

Bristol.—University: proposed hostel for men.

HERTFORDSHIRE.

Hemel Hempstead.—Picture Hall, &c. Mr. S. H. Burdwood, architect, 31 York Place, Portman Square, London.

ISLE OF MAN.

Douglas.—Business premises, Myrtle Street, for the Douglas Ice Company, Ltd. Messrs. G. Kay & Sons, architects, 22 Athol Street.

ISLE OF WIGHT.

East Cowes.—Joint Isolation Hospital: proposed extension.

KENT.

Canterbury.—Baptist Church, New Dover Road: additions. Messrs. Jennings & Gray, architects, 4 St. Margaret's Street.

Proposed temporary hospital for 500 wounded soldiers, for the War Office.

Sandwich.—Parish Hall. Messrs. Turner & Watts, builders, Cattle Market.

Sittingbourne.—Sittingbourne and Milton Joint Hospital: extension.

LANCASHIRE.

Bolton.—Bakery, Thornley Avenue: additions, for Mr. Lonsdale.

Billiards Room and Garage, Chorley New Road. Mr. T. E. Smith, architect, Central Chambers, Fold Street.

Two houses, Hill Cot Road, for Mr. G. Sykes.

Office, Bradford Street, for Messrs. Paiton & Son.

The "Spinners' Arms," Lyon Street: alterations, for Messrs. Sharman & Sons, Ltd.

Haslingden.—Laundry, for the B.G.

Rochdale.—The "Spinners' Arms" public-house, Bury Road: additions.

Royton.—Wesleyan Chapel, Luzley Brook: school.

St. Anne's-on-the-Sea.—Ashton Hall, for U.D.C.

LEICESTERSHIRE.

Lutterworth.—Seven Council cottages.

LINCOLNSHIRE.

Spilsby.—Children's Home, Halton Road, for B.G.

MIDDLESEX.

Edgware.—School, &c., Grove Road, for Rev. Mr. Tatton.

Edmonton.—Workhouse and Infirmary: extensions. Mr. J. C. S. Mummery, A.R.I.B.A., architect, 13 Fitzroy Square, London.

Leverstock Green.—Six houses, for St. Albans U.D.C.

MONMOUTHSHIRE.

Risca.—Council school, Pontymister.

NORTHUMBERLAND.

Alnwick. — Working men's dwellings, South Road (£5,600).

Berwick.—Secondary school for boys and girls, Magdalen Fields.

Newcastle-on-Tyne.—Council school, Bath Lane: alterations (£650); also girls' department (£5,900).

Seaton Delaval.—Council school.

NOTTINGHAMSHIRE.

Nottingham.—Bulwell Hall: open-air school for physically defective children (£700).

SHROPSHIRE.

Shrewsbury.—Belle Vue House: improvements, for B.G.

Wellington.—Hospital, Hadley Road (£9,000).

Wistanswick.—Congregational Chapel (£1,000).

STAFFORDSHIRE.

Lichfield.—Four cottages, the Old Barracks, Birmingham Road, for Mr. E. Griffin.

"Claremont," Trent Valley Road: additions, for Mr. H. G. Hall.

"Grendon House," Walsall Road: additions, for Mr. H. L. Johnson.

Proposed twenty working-class dwellings, Beacon Hill. Mr. P. A. Benn, City surveyor.

Stoke-on-Trent.—Council school, Oakhill.

Basford Hall: alterations, for Wolstanton and Burslem Guardians. Messrs. H. Grant & Son (£685) and Mr. H. Sambrook (£331), contractors (both of Burslem).

SURREY.

Barnes.—House, East Sheen Avenue, for Mr. G. W. Smtih.

Croydon.—St. Michael's Vicarage (£2,000).

SUSSEX.

Hayward's Heath.—Congregational Church, South Road.

WARWICKSHIRE.

Bulkington.—Two houses and shops, Leicester Street, for Mr. G. Earndon.

Stratford-on-Avon.—Working men's dwellings (£6,900).

YORKSHIRE.

Greetland.—Sunday School and Institute. Messrs. Jackson & Fox, architects, 7 Rawson Street.

Huddersfield.—Bungalow, Woodside Road, Crosland Moor. Messrs. Lunn & Kaye, architects, 14 John William Street.

Milnsbridge.—Warehouse and offices. Messrs. Abbey & Son, architects, 34A New Street, Huddersfield.

Mirfield.—Council school, Northorpe (£10,000).

Rawmarsh.—Ryecroft Wesleyan Methodist Church: Sunday school.

Sheffield.—Children's homes, Hucklow Road, for B.G.

Skipton.—Proposed smallpox hospital, near Waterford Ghyll.

Wakefield.—Picture theatre, for Mr. B. Firth.

Wath Wood.—Isolation Hospital: addition (£900).

WALES.

Aberkenfig, Bargoed, and Gellygaer.—Council schools. Mr. D. Pugh-Jones, F.S.I., County architect, County Hall, Cardiff.

Llandrindod Wells.—Isolation hospital. Messrs. Hopton & Griffith, contractors (£465).

SCOTLAND.

Broughty Ferry.—Cottage, Hamilton Street, for Miss Mitchelson.

Cathcart.—Board school.

Clydebank.—Three houses, Barns Street, Whitecrock (£1,200). Mr. J. Taylor, builder.

Hamilton.—Stables, Whiteford's Orchard, for the Corporation (£3,615).

Leven.—Baptist Church (£2,000).

Methil.—Parish Church: re-building (£13,000).

IRELAND.

Balbriggan.—Thirty artisans' cottages (£7,000). Mr. M. Heeney, C.E., architect.

Cork.—University College: chapel. Mr. J. F. McMullen, M.R.I.A.I., architect, 30 South Mall.

Cushendall.—Northern Bank premises: additions. Mr T. J. O'Neill (of Ballycastle), architect.

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Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 18,821. Aug. 19, 1913.—Conrad Dressler, 27 Lots Road, Chelsea. Ovens and driers suitable for use in the manufacture of tiles, bricks, pottery, and analogous ware, for annealing and for other purposes.

23,232. Oct. 14, 1913.—A. B. Swales, Claremont, Hillside, Stonebridge Park, N.W. Saw-sharpening machines.

24,595. Oct. 29, 1913.—F. T. Brooks, 31 Tenison Avenue, Cambridge. Colouring and/or preserving wood.

26,094. Nov. 14, 1913.—H. J. Gregory, Glyn Gwyn, Cemetery Road, Porth, Glam. Socket for water-closet pans for connecting pipes and the like thereto.

26,182. Nov. 14, 1913.—Mak Myers, 50 Montague Street, Whitechapel. Locks.

26,259. Nov. 15, 1913.—A. C. Ionides, jun., 34 Porchester Terrace, W. Apparatus for heating water and other liquids.

26,497. Nov. 18, 1913.—A. F. Berry, 27 Woodville Road, Ealing. Electrical and gas-heated cooking ovens.

26,547. Nov. 19, 1913.—R. B. Breingan, 8 Ashdale Road, Fazakerley, Liverpool. Door fastenings.

27,142. Nov. 25, 1913.—George Jennings, Ltd., and John Morley, Lambeth Palace Road, Surrey. Water-waste preventers.

28,780. Dec. 13, 1913.—Robert Oxspring, Doe Royd Farm, Wadsley Bridge, Sheffield. Automatic device for lighting and extinguishing gaslights.

445. Jan. 7, 1914.—H. Hylton-Foster, Tolworth Hall, Tolworth, Surrey. Window frames.

648. Jan. 9, 1914.—E. C. Bowden-Smith, Careys, Brockenhurst, Hants. Valves (especially relating to valves employed in pumps delivering water and sewage).

1,634. Jan. 21, 1914. John Shanks, Tubal Works, Barrhead, Renfrewshire. Urinals.

2,162. Jan. 27, 1914.—Richmond Gas Stove and Meter Company, Ltd., A. A. H. St. Leger, and J. P. Pratt, Academy Street, Warrington. Flue pipes of "Geyser" water heaters and similar apparatus.

2,565. Jan. 31, 1914.—James Beresford & Son, Ltd., and H. J. Beresford, Cato Street Works, Vauxhall, Birmingham. Sliding-door fittings.

9,293. April 14, 1914.—Dated under International Convention May 23, 1913. D. E. Williams, 2,162 East Second Street, Cleveland, Ohio, U.S.A. Vacuum cleaners.

9,293. April 14, 1914. Doted under International Convention April 15, 1913. P. B. Abramsen, 422 Summit Street, Knoxville, Allegheny, Penn, U.S.A Machine for straightening rods and pipes.

12,122. May 16, 1914.—A. R. Boyes, Thief River Falls, Pennington, Minnesota, U.S.A. Scaffold bracket.

12,659. May 22, 1914.—A. W. Penrose & Co., and Malcolm Owen, 109 Farringdon Road, E.C. Controlling apparatus for electrical lifts and the like.

18,224. Aug. 1, 1914. Fred. Buck, Saginaw, Michigan, U.S.A. Combined rule and level.

12,555. May 21, 1914.—W. C. Wise, P. Chappuis & Co., 85 Fleet Street. Trough shape reflectors.

15,547. June 29, 1914.—W. H. Wright, 39 Lark Hill Lane, Club Moor, Liverpool. Hand saws.

18,943. Aug. 22, 1914.—Vincent Dugmore, Thornley Street, Wolverhampton. Bale latches.

12971. May 27, 1914.—Hubert Dollman, Baskerville Place, Broad Street, Birmingham. Jointing metallic pipes, and the like.

15225. June 25, 1914.—G. M. Pinder, 130 Alderson Road, and J. W. Winter, architect, St. Peter's Close, Sheffield. Acetylene lamp for use in testing drains, and the like.

16141. July 6, 1914.—E. T. Palmer, Victoria Works, 112 Belvedere Road, S.E. Wire rope meshings for scaffolding, and the like.

10,735. May 1, 1914.—Robert Brown, of Robert Brown & Son, Ltd., Ferguslie Works, Paisley. Lavatory basins, baths and the like, and waste fittings therefor.

29,295. Dec. 19, 1913.—William Newman & Sons, Ltd., and G. F. Newman, Hospital Street, Birmingham. Retaining or holding device for swing and other doors.

50. Jan. 1, 1914.—James Caine, 28 Station Road, Patricroft, Lancs. Means for cleansing sewers, drains, and like conduits.

15,230. June 25, 1914; June 25, 1913.—P. C. Brenner, 2,123 Larrabee Street, Chicago. Door operating device.

7554. March 25, 1914.—M. C. Payne, 55 Hoe Street, Walthamstow. Clip joints for pipes and tubes.

10229. April 25, 1914.—P. MacDermot Christie, Rural Free Delivery 1, Box 77, Urbana, Indiana, U.S.A. Hoisting apparatus.

6260. Mar. 12, 1914.—A. B. Ogden, 35 Gloucester Road, Urmston, Manchester. Apparatus for drying the sludge or solid matter recovered from sewage.

Any of the above specifications may be obtained from J. D. Roots & Co.

Correspondence

[The Editor will not be responsible for the opinions expressed by Correspondents.]

War on German Trade in Belgium.

SIR,—Through the columns of your valuable paper may we draw the attention of English manufacturers to the splendid opportunity they have at present in making arrangements to be represented in Belgium?

Amongst the good class of refugees there are a number who, before the war, acted for German firms, and who are wishful to replace these makers by English manufacturers of similar goods.

These refugees are here unoccupied, and would be very pleased to spend their time in acquiring the knowledge of the lines they will be called upon to introduce later on.

The Belgian Chamber of Commerce in London, 24 St. Dunstan's Buildings, St. Dunstan's Hill, E.C., is at the disposal of manufacturers to put them in communication with suitable applicants for such posts. We further take advantage of the present to invite all employers who have vacancies for foreign correspondents, &c., to let us have particulars of their requirements, as the enforced idleness is very irksome to our countrymen.

We thank you for your kindness in publishing this letter, and we remain, Sir, yours faithfully,

P. DORCHY, *General Secretary.*
L. GODCHAUX, *President.*

Belgian Chamber of Commerce in London (Incorporated),
24 St. Dunstan's Buildings, St. Dunstan's Hill, E.C.:
December 10, 1914.

COUNT G. N. PLUNKETT, Hon. A.R.I.B.A., lectured last week in St. Patrick's College, Maynooth, on "Symbolism in Church Architecture."

THE Welsh National Memorial Association have received the offer as a free gift of a site at Pontypool for the proposed tuberculosis hospital in Monmouthshire. The scheme is to provide for 150 beds at a cost of £25,000.

A SERIES of panel pictures by Mr. Frank Brangwyn, A.R.A., has now been placed in the Chapel of Christ's Hospital, Horsham, as a gift from the Governing Body. The subjects represented are: "The Martyrdom of St. Stephen," "St. Paul Shipwrecked," "St. Paul at Rome," and "St. Wilfred Among the South Saxons."

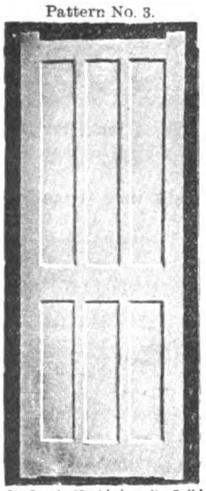
THE Sites and Buildings Sub-committee recommend the Birmingham Education Committee to approve of plans for submission to the City Council for the erection of a new Council school at Hall Green. The total cost of the school is estimated at £15,000, plus £900 for furniture and fittings. The accommodation will be for 1,000 children.

THE Middlesbrough Council are promoting a scheme for the erection of a technical college in the town, complaints having been received from the Board of Education as to the lack of facilities. Ten years ago a site was purchased contiguous to the High School for such a purpose, and last year it was reported the cost of a suitable building, to include an Art School, would be about £45,000.

THE foundation stones of the first section of the Haywards Heath Congregational Church were laid on the 9th inst. The design is late Gothic freely treated; externally the walls are of red brick with stone dressings and tracery, and tiled roof. The general plan is a nave with double transepts, accommodation being for 300 persons at first. The contract is let to Mr. T. White, Haywards Heath, and amounts to £2,049. The architects are Messrs. George Baines & Son, 5 Clements Inn, Strand, London.

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THE ARCHITECT

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CHURCHES AND FACULTIES.

A GREAT deal of uncertainty exists in the minds of both clergy and laity, including architects, as to the necessity for a faculty when work is contemplated to an existing church, and there is also, in many quarters, a strong feeling that the restraint of a faculty and of the necessity for its procuration is highly desirable, and should be in operation to a greater extent than at present; whilst some few take up the attitude that faculties have been too lightly granted, and much mischief allowed thereby. The question of faculties was, therefore, a legitimate and desirable subject for careful consideration by well-qualified examiners. Such consideration has been given by a committee consisting of Sir Lewis Dibdin, D.C.L., F.S.A., Dean of the Arches; Sir Alfred B. Kempe, D.C.L., F.R.S., Chancellor of the dioceses of London, St. Albans, Southwell, Peterborough, Chichester, and Chelmsford, and formerly Chancellor of the diocese of Newcastle; and Sir Charles E. H. Chadwyck-Healey, K.C.B., K.C., F.S.A., Chancellor of the diocese of Exeter and formerly of the dioceses of Salisbury and Bath and Wells; and their report has recently been presented to their Graces the Lord Archbishops of Canterbury and York.

The Committee obtained evidence from all the Bishops, all the Chancellors of the several dioceses, Mr. Ernest Newton, A.R.A., Mr. Walter Tapper, F.R.I.B.A., Mr. W. D. Caröe, F.S.A., F.R.I.B.A., the Rev. Canon G. M. Livett, F.S.A., and others, and also considered very carefully a memorial presented to the Archbishops by the Society for the Protection of Ancient Buildings, together with a list of forty churches where "destructive" work is alleged by the Society to have been "carried out under a faculty since 1896."

In their report the Committee begin by explaining that in law every change, whether by way of addition, alteration, removal, renovation or repair, which affects the structure of a church or its appearance or its ornaments or decorations or furniture, is subject to the control of the Ordinary—*i.e.* the Bishop of the diocese and his delegate, who in effect is the Chancellor in the Consistory Court, and so, legally, requires a license or faculty. The obvious inconvenience, we might say impossibility, of literal compliance with the law has resulted in allowing churchwardens a free hand in minor matters, so that they can have a pane of glass repaired or a new key fitted to a lock without a faculty. But, of course, when there is no definite criterion there always arises a difficulty as to what are minor matters and what major, until we have known churchwardens, with a conscientious intention of learning their correct position, imbued with the notion that the law will allow them to do anything they like in a church by way of addition, but that a faculty is required for any removal. We do not regard as quite satisfactory the Committee's explanation of the churchwarden's authority: "Its extent is to be defined rather by commonsense in particular cases than by the general application of precise rules."

The fundamental object of the whole system of faculties is without question to secure due protection, alike on liturgical, ritual, archæological and artistic grounds, for church fabrics which have to undergo repair or in which changes are being made; and inasmuch as very slight operations might effect irreparable injury on any of these grounds, there seems to us to be sufficient reason for a very definite limitation of the license now allowed by custom to churchwardens. As the law now stands, the class of persons who possess the *locus standi* to oppose an application for a faculty is very limited. Neither the Bishop, the Archdeacon, the Rural Dean, or other representative of the diocese has any voice in the matter, neither has any representative of the public interest in art, archæology or ritual. The only possible objectors are the parishoners and persons whose personal or private interests may be affected, such as lay rectors, patrons, and owners of monuments and vaults.

Hence very frequently faculties are issued without opposition, and, always solely at the discretion of the Chancellors, either *proprio motu* or in open court. The matters for judicial consideration by the Chancellor in coming to a decision on any application for a faculty (whether unopposed or opposed) are: (1) Whether the proposed change is in accordance with ecclesiastical law; (2) whether in the particular circumstances it is desirable. Under the latter head it is the duty of the Judge to have regard to the convenience and permanent advantage of the parish, and to architectural, archæological, and artistic considerations, but on occasion there seems to be little doubt that too narrow a view has been taken, and it has been assumed that all questions of taste must be entirely ignored in order to escape the absurdity of the Judge being able to impose on applicants his personal whims in matters of art and archæology, which, as Chancellors are primarily appointed for and exercise their functions from a sound knowledge of ecclesiastical law rather than artistic taste or antiquarian erudition, has at least a semblance of rationality.

It is not surprising, therefore, if mistakes and miscarriages in the granting of faculties should have occurred by which damage has accrued to both artistic and archæological interests of church fabrics. Such occurrence has formed a basis for the gravamen of a charge by the Society for the Protection of Ancient Buildings, whose Committee submitted to the Archbishops a list of forty churches where "destructive work" is alleged to have been "carried out under a faculty since 1896."

We have had occasion repeatedly in the columns of *The Architect* to call attention to the mistakes of method and procedure by the Committee of this Society, and we have done so with deep regret, as we regard the ostensible object of the Society as eminently praiseworthy; but, as far as our knowledge goes, no more scathing condemnation of the present management of the Society has ever appeared than the restrained and dignified official refutation contained in the report of the Ancient Monuments (Churches) Committee to the Archbishops of the reckless charge launched by the Committee of the Society.

The Archbishops' Committee find that in twenty-one of the forty cases in the Society's list no faculty was obtained, and in two of these the absence of a faculty was known to the authors of the list, for it is actually mentioned by them. What possible credit can be given to the advice of a Society whose Committee's methods are marked by such recklessness? The protection of ancient buildings is a matter that demands the utmost

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carefulness and sound judgment, and this exposure of utter carelessness must vitiate in the minds of all impartial persons any regard for the reliability of all future statements emanating from the Society.

Other inaccuracies of statement which are refuted include some which, if the matter were not so serious, would be almost ludicrous, as, for example, in a case where not only was no faculty granted, but complaint is made by the Society of the refacing of an ancient wall the antiquity of which dated from its erection in 1818.

In face of this recklessness of method the Society has the effrontery to suggest that it should be entrusted with some official responsibility for the care and supervision of ancient churches! We sincerely hope that the good sense of the Archbishops will be sufficient to for ever avert from our ancient monuments of the piety of the past any such catastrophe. The present standpoint of the Society's policy as to the proper method of dealing with ancient buildings is, as the Archbishops' Committee rightly point out in dignified language, inconsistent with the primary purpose of a parish church; but, even if that standpoint were admitted as correct, the utter recklessness of the Society's Committee in the statement of facts would at once stamp them as completely unreliable custodians of ancient church fabrics.

Far better is the recommendation of the report that an advisory body should be constituted in every diocese for the assistance of the Court in architectural, archæological, historical, and artistic matters relating to churches as to which faculties are sought. With regard to such an advisory body the report further recommends that (1) it should possess local knowledge, and that in some dioceses it might be desirable to appoint separate advisory bodies for different portions of the diocese, as, for example, when a diocese includes districts in more than one county; (2) experience in all necessary departments of knowledge should be so represented as to give weight and prestige to the opinions expressed by the advisory body; (3) the advisory body should be unpaid.

The report also recommends that the category of parties having a *locus standi* in the Consistory Court in a proceeding for a faculty with regard to a parish church or chapel of ease should be enlarged so as to include the Bishop of the diocese and any person or body of persons appointed by him, and any other person or body of persons with the leave of the Court. The obvious objection that such enlargement of possible opposition would tend to increase the cost of faculties is met by the provision that the Chancellor, before giving leave to intervene, may make such order as to security for, and also as to payment of, costs as he may think just.

The position of churchwardens is to be to a certain extent regulated by the recommendation that a statement should be prepared in every diocese setting out clearly and simply the law with regard to faculties and the obligation of churchwardens to observe it, their responsibility for its non-observance, and the steps which will be taken in the event of wilful disregard of its provisions, a printed copy of such statement being handed to every churchwarden on admission to office by the Ordinary, and another copy hung up in the vestry of the church.

NOTES AND COMMENTS.

As it appears to us from the reports in the *Irish Times* and without local knowledge, the Dublin Municipal Council is to be congratulated, in spite of some feeling of soreness on the part of their Housing Committee, in agreeing to the proposal that the site selected for a crowded housing scheme at Ormond Market should be devoted instead to the erection of a new Roman Catholic Cathedral and the housing transferred to fifty acres of land at Clontarf. It is surely better for the city of Dublin to have a cathedral in place of a slum, when far more housing under excellent conditions can be secured at the same time by the operation.

The breakdown of the London County Council's tramway system by a failure of the electricity supply through an accident at the Greenwich generating station illustrates the ever-present liability to sudden failure when electricity is relied upon as a motive power, and is a warning against the danger of putting all one's eggs in one—electrical—basket. Therefore it will furnish an argument against the Council's great scheme outlined in the London and District Electricity Supply Bill. As stated by Mr. Hume, the chairman of the Highways Committee, the origin of the trouble was the bursting at the Greenwich generating station of a transformer box which had been in use for some ten years, and which would have been done away with in another five days. In connection with the alterations which were going on at the station there was a heavy wooden staging close by, and this was set alight by the oil thrown out, and the heavy cables running from the generator to the switch-board were destroyed. The generator was completely cut off from the switch-board and the station "shut down." The protective devices adopted subsequent to the last accident at the station worked well, the only two generators affected by the electrical surges set up being two connected with a reciprocating engine which was to be removed, and to which, in consequence, the alterations had not been made. The accident could not have occurred had it not been for the proximity of the wood staging, which was purely temporary. There was no loss of life or personal injury, but had the accident occurred five minutes earlier the staging would have been covered with men. Mr. Hume went on to say that the accident was not due in any way to a fault in the system; it was one of the class against which human ingenuity could not provide.

In an address to students of the Leeds School of Art on the occasion of the annual distribution of prizes, Mr. M. E. Sadler, the Vice-Chancellor of Leeds University, spoke of the effect of war upon art. He said that just now, when our thoughts were full of the great struggle in which the British Empire was engaged, of the heroic, cheerful courage of those who were fighting our battles by land, sea, and air, and of the sufferings of non-combatants in Flanders and on our Yorkshire coast, it was natural if we asked ourselves what would be the effect of the war on the arts which that school was founded to encourage, and whether history pointed to any clear connection between art and warfare. British artists had made an instant response to their country's call, and had gone in great numbers on active service in her defence. Those who could not themselves bear arms had been generous in their gifts and personal services to the sufferers from the war, and one of the more memorable of the appeals to British patriotism was Mr. Brangwyn's poster showing the agony and courage of Belgium. In the depressing outlook there were, he thought, at least two rays of light. The war might bring a change in the methods of some branches of British industry which depend on design and artistic craftsmanship. When peace came, and devastation had been repaired, British enterprise would find commercial opportunities in several countries in which it would enjoy a special degree of goodwill. The struggle for trade would begin again, but in some respects a new chapter would have been opened, and, in this changed situation, Great Britain would find new chances of success, partly because of political sympathies, partly because of the probably greater exhaustion of some of her rivals. The war had already brought into British industry a lessening of the competitive isolation among firms engaged in the same trade, and a somewhat increased readiness for concerted action. If this spirit of united effort continued, the Government would find it possible to help forward the collective British interests of the trades concerned, without unfair preference to individual firms. Through its agents, it could secure in many foreign markets public attention to novelties and fresh designs in British manu-

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facture, and this could be done at relatively small expense. The Schools of Art would be the chief sources of the increased supply of trained artistic skill.

Warfare and art had both played so great a part in the history of mankind that the two had inevitably interacted on one another. The operations of war had led to calamitous destruction of works of art, and, whether by plunder or through the economic drain of defeat, had transferred many masterpieces, both from public and private collections, from one country to another. But in an essay in "The Crown of Wild Olive" Ruskin went so far as to ascribe to war a uniquely stimulating influence on the production of art. He said that "no great art ever yet rose on earth but among a nation of soldiers. . . . There is no great art possible to a nation but that which is based on battle." If by these words Ruskin simply meant that national vigour was essential to art (though not alone capable of producing it), and that vigorous nations valiantly defended or asserted themselves, no objection could be taken to his generalisation. But he doubted whether it could be shown that the greatest art had been founded on war. It was striking how few of the artistic masterpieces of the world dealt with battle or owed their inspiration to warfare. Two of the greatest of these were archaic—the sculptures of the pediment which adorned the temple of Aphæa at Ægina, and are now at Munich, and the long roll of the Bayeux Tapestry which recorded the epic of the Norman invasion of England. But how few other of the great masterpieces of ancient or modern art dealt with battles or fighting? When we had recalled Velasquez's picture of the "Surrender of Breda," and the great pictures at Haarlem in which Franz Hals immortalised the members of the shooting guilds, and had added to these perhaps Paolo Uccello's picture of the "Rout of San Romano," now in the National Gallery, how little else remained of the first rank in painting which represented the military art! And in sculpture, in spite of the Victory of Samothrace, the spiral decoration of Trajan's Column, and the sarcophagus of Alexander, the same seemed to be true. To war, indirectly, we owed some great busts and portraits, such as Sir Joshua Reynolds's "Lord Heathfield" and Goya's drawing of the Duke of Wellington, now in the British Museum, and also some fine designs on weapons and on armour. Vernet, Meissonier, and the Russian Verestchagin had left pictures of great battles which were valuable memoranda either of the stateliness or the horrors of historic struggles. But war itself was too exciting and disturbing for artistic production, and the greatest wars were followed by exhaustion, which was unfavourable to the encouragement of art. It was through the art of poetry, and perhaps of music, rather than of painting or sculpture, that genius endeavoured to record the exaltations and agonies of war and "man's unconquerable mind."

The admirable collection of civic survey drawings at the Royal Institute of British Architects, collected to replace the drawings and maps lost by Professor Geddes through the sinking of the *Clan Grant* by the *Emden*, was opened by Viscount Peel, Chairman of the London County Council. The idea of collecting the maps and materials, Lord Peel said, was to form a continuous survey of what London had been and what it might be. Some of the town planning drawings showed that with very little addition and without heroic efforts we might produce effective improvements in London town planning. People seemed to spend too much money on the inside of their houses, and were content with deplorable stucco structures outside. He was rather hopeful, however, of the wakening of public opinion to the necessity of considering beauty and harmony in the development and planning of our cities. His experience of the London County Council encouraged him in that view. An exhibition of the present kind must be extraordinarily stimulating to those who took an interest in town planning, public parks, and the larger aspects of civic life.

The decision of the Local Government Board in an appeal against a demolition order issued by the Burnley Corporation raises a point of considerable importance to corporations and property owners.

Some time since the Burnley Corporation issued an order for the demolition of a number of dwellings in Engine Court on the ground that they were unfit for human habitation. Mr. John F. Lancaster, the owner, proceeded to alter the property with the view of converting it into warehouses or storerooms. The Corporation refused to sanction such conversion, and insisted on the demolition order being carried out. Mr. Lancaster appealed to the Local Government Board, claiming that, as the property was not to be used again for habitation purposes, the object of the Corporation had been achieved and the demolition order should be quashed. The Corporation contended that the Local Government Board had no discretion in the matter, and that, when once a demolition order had been made in accordance with the statute, it must be carried out. The Local Government Board intimated that the appeal raised a point which had not been judicially decided, and they stated a case for the Court of Appeal. This Court decided a few weeks ago that in such cases the Local Government Board had the discretion to vary or quash, on reasonable grounds, a demolition order made by a local authority.

The Local Government Board, in their decision, say:—

"The Board have come to the conclusion that the appellant should be allowed to carry out such alterations as are necessary to convert these premises into warehouses or stores, on the understanding that when these alterations have been made to the satisfaction of the Corporation—or, in case of difference between the parties, to the satisfaction of the Board—the demolition orders shall be quashed by formal consent of the Board. The Board propose to allow the appellant six months from the date of this letter within which to execute the alterations referred to."

THE capture of German trade includes not only the supply of British manufactures to those markets oversea which were formerly supplied by our enemy, but also the transference to ourselves of those raw materials formerly imported by Germany; and amongst these most important is the raw material for which our Dominions overseas used to find an outlet in Germany and Austria. We must do our best to absorb the output of our fellow-members of the Empire, and an aid to that absorption has been provided by a pamphlet just issued, published under the authority of the High Commissioner for the Commonwealth of Australia, giving information as to Australia's raw materials. Our kinsmen "down under" have been hit by the loss of Germany as a customer for their raw material, whilst their trade with France and Belgium is, for the present at least, seriously crippled. The magnitude of the trade may be gathered by the figures given in the pamphlet of £6,834,451 for Australian produce exported to Germany, and £7,029,331 for German produce and manufactures imported by Australia in the year 1913. If we want to supplant the German exports by British, we must be prepared to exchange with the Australian exports to Germany. Turning our attention more particularly to raw material used in the building trade, we find that the values of some imports by Germany in 1913 were: zinc, £385,079; copper, £364,612; lead, £37,094; undressed timber, £14,293. The pamphlet before us gives detailed particulars of Australia's imports and exports to Germany, and a list of exporters of Australia's principal products from, with representatives in, London of some of them. We miss from the list the name of Millars Timber and Trading Company, of Fremantle, West Australia; and Millars Kari and Jarrah Company (1902), Limited, of White Bay, Sydney, and Purfleet-on-Thames, both of whom have, or had until recently, offices in London.

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WAR ITEMS.

THE attention of the Board of Trade has been called to the fact that certain traders in this country do not appear to be fully aware of their obligations and responsibilities in regard to trading with the enemy.

Traders are now by law expressly prohibited from obtaining from or supplying to an enemy country, or an enemy, either directly or indirectly, any goods, wares, or merchandise, and it is incumbent upon them to take every precaution to see that goods which are exported to a neutral country are not ultimately destined for an enemy country, and that goods which they import from a neutral country are not of enemy origin.

The Board of Trade does not doubt that reputable British firms are in general careful to avoid infringement of the proclamations relating to trading with the enemy; but they have reason to fear that in some instances there have been cases of business laxity, and that goods have reached this country or have been exported from it which proper inquiry would have shown respectively to have been of enemy origin or intended for enemy consumption.

Any such laxity or want of proper inquiry renders firms liable to the risk of prosecution under the "Trading with the Enemy Act," the penalties imposable under which may be either fine or imprisonment or both, and if the conviction is under indictment even to penal servitude, with forfeiture of the goods in either case.

COMPETITION NEWS.

COVENTRY.—At a meeting of the Education Committee held on the 16th inst., the Committee decided to adopt a recommendation that the building of a new school at Stoke should be proceeded with, and that plans and draft instructions to architects be recommended to the City Council for adoption. Architects practising in Coventry are invited to submit sketch plans for the school, accommodation to be provided for about 450 children in an infants' department (ages five to eight years), and for about 375 senior children (eight to fourteen years) in each of the two senior departments, one for boys only, the other for girls. The whole school will thus accommodate about 1,000 children, and the Committee will not consider any design of which the total estimated cost for carrying out exceeds £15,000. The architect whose plans are accepted will be appointed to superintend the erection of the buildings at an inclusive fee of £600. The plans are to be delivered not later than noon on February 27 next.

MACCLESFIELD.—At the last meeting of the Macclesfield Lands, Railways, and Town Development Committee it was reported that applications for particulars and conditions relating to the proposed competitive housing scheme had been received from the following firms: Messrs. Russell, Hall & Fawkner, Mr. J. E. Burgess, Messrs. G. Roylance & Co., Ltd., Messrs. H. Berry & Sons, Messrs. Cooper Bros., Mr. J. Clayton, Mr. Costello, and Mr. A. Malbon. The Borough Surveyor (Mr. S. C. Baggott) was appointed assessor of the plans and specifications, which are to be sent in by January 31, 1915.

WHITEHAVEN.—The Town Council has decided to advertise for competitive plans for the Coach Road Housing Scheme, and to offer premiums of 30 guineas, 20 guineas, and 10 guineas respectively for the best three.

ILLUSTRATIONS.

ITALIAN PAVEMENTS.

OUR illustrations this week give some of the examples referred to by Professor Alfredo Melani in his article on "Artistic Pavements in Italy," which will be found in the following columns.

THE competitive plans for the reconstruction of the buildings adjoining the Tolbooth Steeple, Glasgow, will be on exhibition at No. 20 Trongate (Fourth Flat) from December 22 till 26, both days inclusive, between the hours of 10 A.M. and 3 P.M.

ARTISTIC PAVEMENTS IN ITALY.*

By Professor ALFREDO MELANI.

1.—EXTENT OF THE SUBJECT.

I AM going to restrict my study to a definite length and to fundamental types, for were I to deal fully with Italian decorative art as represented in artistic pavements I should be compelled to write a volume, not an article. Retrospectively, so as to obtain a better idea of the relation between antiquity and the Middle Ages, we go back to take a glance at Rome as connected with Italian pavements, a large number of which are evidently of Latin inspiration.

This interminable theme leads us to Mosaic—the mother, so to speak, of artistic pavements—and would take us very far beyond our limits. England can give us a warning. A few decades ago the directors of the South Kensington Museum endeavoured to draw up a universal inventory of works in mosaic, which was naturally incomplete: their researches went as far as mosaics on walls. Later on a similar project which originated in France was started by M. Eugène Müntz, but the originator unfortunately died before effecting anything. Neither were attempts lacking in Germany.

2.—RELATING TO HISTORY.

It is scarcely necessary to recall the Romans, who, like the Greeks, adopted in their pavements not only geometrical and natural ornamentation, but also figures, either isolated or grouped in genre pictures and historical scenes. Everyone knows the "Battle of Arbelles," the famous mosaic in the Museum at Naples, and the magnificent portion of a pavement in the House of the Faun at Pompeii, where it was found in 1830. In this human beings and horses introduce to us mosaic on a grand scale; historical composition with people in violent and tumultuous action. Elsewhere other models present for our admiration artistic efforts of a strictly ornamental type, the result of Roman tradition. Animals, geometrical figures, foliage, scrolls, such is this type, which may nevertheless attain to a high degree of excellence. The pavement in the Hall of the Muses at the Vatican is an example of the ornamental type which, rejecting scenes containing figures, employs compositions formed of combinations of various lines and colours. For Latin antiquity, though not excluding figures, yet laying stress solely upon the ornamental line, was fully aware of the resources for the highest effects of flat tints. Polychromy did not seduce the ancient inventor of pavements so as to make him neglect the simplest use of two colours, black and white, or white and grey. On the contrary, black and white produced marvellous pavements, "carpets" of exquisite marble.

Upon the whole, symmetry and repetition have played the principal part in artistic pavements at all epochs, and if rhythmic uniformity is opposed to powerful effects this has not generally laid the inventors of pavements open to disastrous criticism. The line of the whole, the detached motifs, the discreet colouring, the light and shade that you sometimes see—illogical encounter—on the pavements are the elements which save the mosaicist. The light and shade which gives a solid aspect to the various pieces is really an absurd contradiction for which the Romans are responsible. On the other hand, we have noticed fertile imagination, pictures, merry or sad, including even battle scenes, occupations of daily life, the remains of a banquet, the players in the palestra, the rehearsal of comedians in the presence of the author, scenes of civil, agricultural, and religious life, landscapes overcharged with temples, monuments, farms, cottages, streams dotted with boats, plants by the side of an imposing menagerie, either real or fantastic, lions, tigers, leopards, panthers, wolves, hippopotami, serpents, monkeys, and chimeras. The so-called St. Elizabeth mosaic at Perugia, which I have illustrated in my "Arte nell' Industria" (vol. i., p. 81) is one of the most recent specimens, a fantastic collection of animals freely grouped. This shows that antique pavements surpassed or were at any rate the equal of those of the Middle Ages, and in speaking of antiquity I may now look further than Rome, whether or not under Grecian influence—as a modern school is trying to attribute—to the paver of Etruria.

Naples and Rome offer admirable examples of Roman pavements. Outside Italy may be mentioned the Thermes—specimens of the Pont d'Oly (Lower Pyrenees), of the Louvre, and of Lyons Museum, not to speak of the English collections. In the Chenavard Gallery at Lyons is the fragment

* See Illustrations

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of a Roman pavement which greatly interested me depicting a circus performance—chariots overturned, with horses and dogs running at full speed.

3.—MEDÆVAL PAVEMENTS.

Mosaic was the mediæval form of decoration *par excellence* in Italy until the coming of Giotto, who rose above traditions, interrupted the course of mosaic, and asserted the grandeur of the fresco. Wisdom also, Ruskin would say, governed the Florentine, who, master of fresco, was able to solve the problem of mosaic by painting it, using it as friezes for his stories, and as a refinement to his decoration. Instances of this we may see in the Bardi and Peruzzi chapels in St. Croce at Florence.

We are not, however, concerned here with mural mosaic, which in the Byzantine style shone on the walls and cupolas of churches, to the detriment of architectural line. Imposing examples are to be seen at Constantinople, Ravenna, Parenzo, and Venice. To-day we must look for mosaic in pavements, the natural prolongation, however, of the taste shown in other mosaics. And it is as well to notice, in passing, that our pavements, even the most ancient, far from repeating everywhere the technique of the mosaicist, aim at artistic effects through the use of a stucco which facilitates their execution, above all when the artistic creations become complicated. We can obtain much information as to this style from the tombstones in the pavements of the churches at Florence, Pistoia, and Lucca.

A visit to the basilicas of Christian Rome, whose origin is contemporary with the Byzantine churches at Ravenna and Venice, will enlighten those who seek for examples. St. Maria in Cosmedin, St. Crisogono, St. Maria Maggiore, the Cathedral of Anagni near Rome, and St. Maria in Castello de Corneto summarise briefly the numerous pavements which were executed in and near Rome at a less distant period than that which we are going to study now. They are pavements of a geometrical type, with intersecting wheels and borders formed of small squares, lozenges, and triangles. Thus the Roman pavements bring us rapidly to the twelfth and thirteenth centuries, though the date of execution is not always the date of the materials used. The materials belong to Roman or Paleo-Christian antiquity, which means that many of the tombs in the Catacombs have supplied the Roman mosaicists with material, and it was not only the Renaissance and Baroque periods which, at Rome, enriched themselves at the expense of the ancient monuments, thus gradually destroying them. Consequently our pavements resemble each other, and show more mechanical skill than artistic talent.

But let us now consider the more ancient and less elaborate pavements, a series which has escaped the notice of many students and visitors to the Peninsula. We shall not find that their style differs greatly from the Byzantine style at Ravenna, where was to be seen the St. John the Baptist pavement, depicting a stormy sea (fifth century), which was said to have been ordered by Galla Placidia—whose share in the Byzantine town is, however, about to be lessened—in memory of peril overcome in the Adriatic. The pavement no longer exists, so in our search for works of this early period we may turn to the Cathedral of Parenzo. This monument has the same sources as those of Ravenna (especially St. Vitale), and belongs to the sixth century, the remains of the geometrical pavement being found, together with a drawing of the whole, in the Baptistery of that town. The motifs are of Roman style, such as we recognise in the remains of the pavements of the Rotonda at Brescia, of St. Felice e Fortunato at Vicenza, and—a more noteworthy example—in the Cathedral of Grado (sixth century). In the latter the pieces preserved still form nearly the whole pavement: thus they are exceptionally interesting from an historical point of view. A curious fact which is sometimes found in our country is that in the pavement of Grado is preserved a series of inscriptions, each bearing the name of the donors of the pavement, together with the extent of surface paid for by each.

Ravenna—our Italo-Byzantine Pompeii!—though it has lost the pavement of St. John, still possesses very remarkable documents: a pavement discovered beneath the Palace, known as that of Teoderico; another found at a distance of two kilometres from St. Appollinare in Classe; the fragments of St. Severo and St. Francisco—such is the authentic whole connected in parts with Roman tradition.

However, in the presence of Roman tradition we shall distinguish an Oriental tradition to which belong the pavements with figures as opposed to the geometrical type. These pavements of the Oriental type were eagerly welcomed in Italy after the eleventh century, and far from covering, like historical carpets, the whole surface of the churches, they radiated from the principal point, which thus justified the choice of figures.

The motifs, historical and allegorical, are connected with Christian archæology. The sin of Adam and Eve (Cathedral of Novara), David's triumph over Goliath (St. Michele of Pavia), King David surrounded by musicians or the story of Holophernes and Judith (St. Maria Maggiore at Vercelli), Abraham victorious over the King of Canaan or the triumph of Judas Maccabeus over Nicamorus (Cathedral of Casale). In some cases even pagan mythology has been drawn upon. In St. Michele at Pavia Perseus is represented in a scene in the central medallion. I have come across the same scene on pavements in France. Even allegories of the following description are numerous: Paradise as symbolised by the four rivers Euphrates, Phision, Getron, Tigris (Cathedral of Aosta and Novara), the seven-headed beast of the Apocalypse (Cathedral of Casale), the four cardinal virtues (St. Benedetto of Polirone), the triumph of Faith over Discord (St. Maria del Popolo at Pavia), Cruelty and Impiety piercing each other (Cathedral of Cremona), &c. Indeed, that which I am going to summarise briefly is a literary and artistic patrimony which still remains practically unknown, and which has both taste and sincerity. We are here outside doctrinaire art.

Northern Italy gave preference to pavements with figures, whilst the rest of the Peninsula favoured the geometrical type. A noteworthy exception is the Cathedral of Otranto, in which bizarre figure groups delight our eyes; human forms, all kinds of animals, placed one above the other with an irregular rhythm, together with trees and foliage—here we have an ultra-fantastic composition.

These pavements have been forgotten in the past, as has been the case also with the architectural monuments forming the decoration. There is a tendency in our country to place before the millennium that which, on the contrary, only dates from after: the inefficiency of artistic craftsmanship in the Middle Ages is the cause of this. Thus, for example, the panels of Aosta Cathedral were assigned to the sixth century, whilst they date only from the eleventh or twelfth.

Lovers of pavements with figures will view with interest the fragments of Aosta and Cremona Cathedrals. There is at Aosta one of those figure calendars in use in the Middle Ages in which the different months are symbolised by medallions. Each medallion has a personage performing some agricultural occupation relating to the month represented. January is a two-faced man closing a door on the right and opening one on the left—the allegory of the solar year which is finishing and re-commencing. February is a man in cloak and hood warming himself; March, a husbandman cutting down a tree, and so on.

I refrain from continuing, as I think it better to present another curiosity to the reader: the Labyrinths. France is richer in these than Italy; she possesses, or rather possessed, several eleventh-century ones, but some are lost. The Abbey of Cruas at St. Rémi, St. Simforiano at Reims, the Abbey of Moissac and Tournus should be visited, not to mention Chartres Cathedral. They are of very ancient origin, and lovers of curiosities may glean information concerning the Labyrinths from St. Michele at Pavia, St. Vitale at Ravenna, Lucca Cathedral, as well as St. Maria in Trastevere at Rome. Some, composed of small triangular or square pieces, of a light colour on a brown ground, as at Lucca and Rome, are found on the walls (Lucca), but their natural position is the pavement, in which the Labyrinths symbolise the difficult path of human life. Their size varies from nine millimetres diameter (Cathedral of Chartres) to fifty centimetres (Cathedral of Lucca) and to 3.50 metres (St. Vitale of Ravenna).

These curiosities, which escape the vulgar eye, form, one might say, the delight of students and artists. The former wish to know the importance of the palette in these marble "carpets," which, like church windows, though to a lesser degree, are in themselves descriptive and eloquent.

The palette! white, black or grey, more or less deep; to this simple scheme may be added red, sometimes with a change of tone which tinges the red with yellow. This may be seen in St. Michele at Pavia; but Italy, with the celebrated pavement of Siena, to which I shall again

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refer, makes more extensive use of its resources in the "tecnica" of pavements.

4.—Fundamental Types.

Venice and Florence are justly quoted as examples in these pages, but Palermo (Palatine Chapel) and Monreale (Cathedral) vie with St. Mark's at Venice and the Baptistery at Florence, as well as with the splendid "carpet" of St. Miniato al Monte, near the town of Dante.

Venice and St. Mark's offer us the complete realisation of the Byzantine style; and, as regards the subject of pavements, reveal to our eyes the most sumptuous beauty. It is irregular in arrangement, with greatly varied motifs and a picturesque disorder which can be explained by history. In short, the pavement of St. Mark's did not evolve from one man's imagination—several epochs and several artists contributed to it. Thus it is allowable for us to declare that the celebrated Venetian "carpet" is like a huge sampler. This conclusion is dictated by the fact that certain parts do not correspond to the lines of the pillars, and have no correspondence with the cupolas. Is this asymmetry intentional? Mr. W. Goodyear, who made a special study of St. Mark's, did not pay any attention to this, and I do not think my friend can deny the correctness of my view that the pillars have, as a matter of fact, been enlarged, but the cupolas have not undergone any change. In my opinion the Venetian "carpet" dates back partly to St. Mark's of the Partecipazi, which was completed in 883, or to that restored after a devastating fire in the reign of the doge Orseolo (976-78). Be this as it may, the general composition of the pavement of St. Mark's dates back to the eleventh century, to the time of the doge Domenico Contarini (1043-1070), and the more ancient parts must not mislead the critic. And I have moreover not yet referred to the frequent restorations. We might question far-off times, the fifteenth century, an epoch caring but little for the restorations of a work—barbarous, the Greeks and Renaissance writers would have styled it. More recent works, anterior to those executed just lately, were profoundly and justly criticised by M. V. Zorzi, who published a treatise on this question which he dedicated to Ruskin, that great admirer of Venice and of the "Golden Basilica." Without entering into details on this point, we may notice almost complete identity of period, and in some respects of taste, between the pavement of St. Mark's and that of the Cathedral of Murano, the date of the latter being 1140, which goes to prove the contemporaneous character always maintained by me.

The geometrical line, the wheels peopled by animals, resemble another pavement, that of the Abbey of Pomposa (Ferrara). This pavement, dated 1026, sustains a thesis and gives the key to the discovery of the epoch of several pavements of uncertain date.

The accompanying plate (see illustration) is insufficient to give more than the vaguest idea of the pavement of St. Mark's, in which the abundance of marbles corresponds to the variety of flowers in a garden; thus, the Venetian pavement fills our mind with noble memories.

The Baptistery at Florence reflects the Italian pavement in its mediæval beauty: wheels, animals, borders with palm-leaf ornament, flowing lines, foliage, with bizarre outlines, repeated zig-zags, on a small scale, so as to apparently enlarge the surface and to seduce the imagination to a greater degree.

We might compare the two Florentine pavements with each other, that of the Baptistery and that of St. Miniato al Monte: the former covers the whole of the octagonal church and is composed of several geometrical patterns decorated with a zodiac, a curious monument which is to be found also in the pavement of St. Miniato. The reader can see it in the illustration. That of the Baptistery forms a large circle radiating from the sun in the centre, around which may be read the verse *en giro torte sol ciclos et rotor igne*, and the circle, cut up into twelve divisions, contains other verses in a very old astronomical rebus, attributed to Strozzo Strozzi (died 1052).

No one knows the inventors and executors of the Florentine pavement. The resemblance must be noticed, however, between the ornamental style of the zodiac and the geometrical panels composed of small squares or interlaced wheels; and if the zodiac, according to the science of Ximenes, dates back to the eleventh century, the remainder of the "carpet" is less ancient and is of thirteenth-century date, the epoch of the St. Miniato pavement. This does not include all the aisles of the basilica. Like the central nave, it is dated 1207, and its resemblance to the Baptistery "carpet" is obvious. The aim of this discourse is to prove that the Florentine "carpets" were contemporary. That of the Baptistery was for several years during the nineteenth century threatened with destruction, and was only saved by the opposition of the architect, G. Del Rosso.

Let us pass on to the Renaissance, to the

5.—Most Celebrated Italian Pavement,

which is that of the Cathedral of Siena, and has received, from the Middle Ages down to the present day, pictures, real pictures. Whenever artistic pavements are discussed in the Peninsula, Siena is sure to be mentioned. The Cathedral, one of the best known in Italy, with its grandiose façade, as richly carved as a shrine, the interior decorated with sculpture, incrustations, and paintings, contains the pavement which revives the artistic glory of the Tuscan town of Duccio, Simone Martini and the brothers Lorenzetti. The great masterpiece was begun in the fourteenth century, the exact year being 1369; one of the first designers was Antonio di Brunaccio. Then, in 1372, was commenced, it appears, the side covering of the central nave, and it may be stated as a fact that the first document with figures in the great pavement dates back to the month of March 1406: this is the wheel with the fortress. From an enormous quantity of facts relating to the masterpiece, we single out those connected with the historical work of Domenico di Niccolo—Joshua and Samson, with the scene depicting King David and Goliath—which was falsely attributed to Duccio, the great master of Sienese painting, the Cimabue of Siena.

We next turn to the Renaissance and to the epoch to which the most superb part of the "carpet" belongs. This period has one pre-eminent painter, Domenica Beccafumi, known as Mecarino (born 1487, died 1551), the master who played the principal part. Beccafumi was naturally surrounded by artists. Pintoricchio is the most famous of the group. He designed the History of Fortune, which is here reproduced, near the fine composition of Beccafumi, The Massacre of the False Prophets of Baal, which is a masterpiece of consummate art. For this scene is full of distinction and sobriety, and gives pleasure to the eye, which is an indispensable attribute of decorative art.

The technique of the Sienese masterpiece is worthy of note, and I may perhaps on a future occasion return to the subject, making it the exclusive subject of an article accompanied by excellent illustrations. The technique of the more important stories is composed of greyish-white, dark grey, black, yellow, and red. The yellow and red are used for garments in the friezes and sometimes for the backgrounds of the landscapes. The light and dark grey are used for flesh tints, and as the colours did not suffice for the gradations and shades of tone, engraving was pressed into service to give softening touches to the landscapes. The result is grandiose, synthetic, and soft.

As I have no space to discuss on this occasion, even briefly, the polychromatic "carpets" in ceramic and porcelain of the Renaissance and following periods at Milan, Venice, Perugia, and Naples, I must perforce end my historical tour, which has brought to light many important and some extraordinary documents, revealing to us anew beauty, charm, and fertile imagination on a theme which was till quite recently practically neglected in our country.

THE ART OF ARCHITECTURE.*

By Mr. R. Caulfeild Orpen, B.A., R.H.A., President of the Royal Institute of the Architects of Ireland.

Does not the spirit of adventure appeal to every one of us? How the pulse of a healthy boy beats as he reads a tale of some voyage of discovery! In every one of us is the desire to get off the beaten track; dull may be the occupation of to-day, but to-morrow to fresh woods and pastures new. The delight of our childhood consisted mainly in the daily discovery of the wonder of visible things. In later years, when we had, or thought we had, exhausted the near-at-hand fields of research, we set out on new voyages of discovery; for some the Hill of Howth; for others the mountains of Switzerland; for the greatly daring the South Pole or the tracing to its source an uncharted river; and last, and greatest adventure of all, the discovery of ourselves.

* A Paper read before the Architectural Association of Ireland.

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Just at the present moment, when our senses seemed dulled by the unceasing thunder of the great guns of war, I have found a respite. I have discovered, as it were, a little Island of Peace, where the cry of "Stop Press" is never heard and on which, while the tide of battle ebbs and flows, I have spent some happy hours in jotting down a few very fugitive thoughts on the subject of art. If my Paper brings any of this respite from the overwhelming consideration of the present crisis to my audience to-night, I shall indeed have cause for self-congratulation.

This lecture, immediately following in point of sequence the eloquent Address of our President at the opening meeting of the present session, creates an occasion at once flattering and embarrassing. I can say with truth that in the history of our meetings I have never listened to a more happily phrased Address or one more full of interesting suggestion.

There was, you may remember, in the early Church a saint whose eloquence gained for him the name of Chrysostom, or the golden-mouthed. I recall a boy at school with me who had the privilege of bearing this name, but that was because his teeth were gold-filled! I think we may, for the higher reason, name our President the Chrysostom of the Association.

It seems to me that power of expression in words—written or spoken—is more evident in our profession than in others. Perhaps there is some haunting lilt in the paragraphs of a specification which stimulates the literary or poetic sense. How sonorous the phrase, "sap, shakes, large or loose knots!" Is it possible that the lot of the shop foreman might be brightened by having the clauses of the specification set forth in verse:—

The contract shall include all work
The architect has set
Forth on his plans, or in his "spec."
Described videlicet:—

However, to get to the subject of my lecture, "The Art of Architecture." I wish to put the accent on the word Art; for Heaven forbid that you should have been lured here to-night to hear me discuss a subject so immense as that which the title of the lecture would seem to cover. Gentlemen, I feel that no lecturer can really interest his audience unless he deals with a subject which intensely interests himself. I can claim no authority to discuss the essence of our art, nor ability to place the consideration of it before you in a fresh light; but I can lay claim to taking the deepest personal interest in the matter, and, though I do not hope—nor perhaps in calmer moments would I desire—to gain your adherence to the theories I shall endeavour to lay before you, I would ask for your sympathetic interest.

Over and over again it has been my lot to be asked, say, by my partner at dinner, "Are you Mr. Orpen the artist?" Of course the proper answer, if you really want to give the information asked for, is, "No, he is my brother." But no architect easily resigns the title, which he is at any rate justified in claiming, and so, if the girl has sympathetic eyes, I might venture to explain to her why an architect may claim to belong to the great brotherhood of artists and to define the position of architecture among the arts; but long before I had got through my preliminaries my hostess would have caught the eye of the lady on her husband's right and there would have immediately followed the sound of shifted chairs, the rustle of silk and laces, that gathering of all the little accessories which a woman manages to drop on the floor during dinner, the dimming of brilliantly lit shoulders and arms as the ladies rise and pass out of the room, and the little momentary sense of the passing of sweetness and light, while the men re-assort themselves and readjust their conversation to altered conditions. And so my lady has escaped me. You, less happily situated, may, with justice, say "Fortunate girl!"

It would appear that I am still shirking a direct attack on my subject. I confess I approach it with much diffidence. What we hope to consider to-night is the place of architecture among the fine arts.

Art is of two kinds; we may name them thus: The arts of utility and the arts of æsthetic appeal. The range of the arts of utility is immense, embracing, for instance, "the art of war" and "the art of cooking eggs." We have our culinary, our sartorial, and our tonsorial artists, all of which can rightly claim the title in so far as they successfully bring together and use properly designed means to effect a definite result.

It will be seen that the essential excellence in the practice of an art of utility is efficiency.

As I have said, these arts of utility are of infinitely wider range than are the æsthetic arts, and as the former make their appeal to the intelligence only, they are far more easily recognised and appraised than the latter.

This being so, the relation of efficiency to art—properly applicable, as it is, to the arts of utility—has led to confusion when applied to the consideration of the fine arts.

The result of this very natural confusion in people's minds is seen in almost universal failure to place mere scholarship in its proper sphere when an example of fine art is under consideration.

For the purposes of this Paper please bear in mind that I use the term "scholarship" in connection with fine art as equivalent to "efficiency" in its relation to the arts of utility.

Perhaps if I re-state what I have already said it may help us.

The arts of utility are of everyday application, familiar to every intelligent being. The essential of their excellence rests on efficiency; naturally people confuse the two sorts of art and come to exalt mere scholarship as applied to fine art production above its proper sphere and, in so doing, have come to ignore the existence of that spiritual quality which is essential to all fine art work.

It would be well if we now tried to understand the meaning of art as applied to a fine art creation.

There have been many attempted definitions and the number of those indicates the subtlety of the subject and the wide diversity of opinion. There is one which satisfied me for a considerable time, and it is this:—

"Nature seen through the medium of a temperament."

Though I realise that, in so doing, I have confessed my own uncertainty of opinion, I have ventured to reverse this definition, and in its altered form I will accept it for discussion to-night:—

"A temperament seen through the medium of nature."

Let us start our consideration of this most complex subject by asking, Why are examples of the fine art produced at all? Someone may say for purposes of barter, but, in view of the slightness of public recognition, I think we must seek further for the impelling motive; we must look for a deeper cause. I think it lies in this:—

"The hunger of a soul for sympathy."

Have you not often been overwhelmed with the awful loneliness of your soul—that flickering flame which emerged from darkness and for a few short years has made your body its home; that mysterious Ego which is from all eternity to all eternity? For a little period this Ego finds itself master of a voice and cries out for intercourses and sympathy with its fellow-souls. With thousands there is no soul language, but with the elect few—the artists of the world—it is the most splendid and comprehensive of all languages, common to all nations and to all time.

Now, in order that this call of the artist may be heard it is necessary that he should employ a medium of expression intelligible to those to whom he appeals, and so the poet's voice is audible through the written word, the musician's through the vibrations of the ether, the painter's or sculptor's through visible nature symbolised.

If, indeed, artists could invent a medium only understood by artists much of the confusion in regard to what art really is would not exist.

It is just because the artist has only at his disposal media such as words and sounds and natural objects—phenomena of common experience—through which to find expression that the vast majority of people devote their appreciation or critical faculty to the appraisement of perfection in treatment displayed, and remain deaf and blind to the spiritual side of the artist's appeal.

Hence the confusion of ideas which substitutes scholarship for art which has already—and, alas! I fear will always—obscured the real essence of all fine art.

Scholarship, which I define as excellence in the manner of presentation, I hold in the highest esteem; but it must be regarded as a means of expression only. Intellect and ear and hand and eye spend laborious days—from the nursery to the university—acquiring that facility of expression which the soul craves. Therefore I would not wish you to think that I minimise the importance of scholarship in art. The more scholarly the artist the wider his field of appeal; for it is clear that the obvious will always attract the average man, and he will delight in recognising defects in scholarship and plume himself on his appreciation of technical excellence.

I think you will find that most people will tell you that in the art of painting fidelity to nature is the criterion of

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excellence. To such a man—holding this, as I think, quite superficial view on art—you are entitled to say: "You place technical skill in representation of nature on such a high pedestal I suppose you would be prepared to say that the nearer a picture approaches to a reproduction of nature the higher the artistic achievement." This supposition he will readily admit. Then you may lead him further and say: "Let us suppose that the science of coloured photography had so far advanced that it could reproduce landscape, for instance, with every subtle hue and tone so accurately recorded that if this coloured photograph were framed and hung on a wall in a room giving on the subject photographed, and beside this framed photograph a hole in the wall was cut of similar form and size and edged with a similar frame, the observer would be unable to distinguish the reality from its presentment. Would not this represent the highest achievement in landscape art? I think he will be forced to give his assent; yet we see that he has but acknowledged a triumph of science. You, probably, will have lost a life-long friend, but you may cheer yourself with the thought that you have dropped a tiny seed which some day may germinate in a barren soul!

Once we recognise the definite place scholarship occupies in regard to art we will be in a position to understand the origin of many modern art movements.

That which I have, for convenience, called scholarship in art is only, as it were, a perfection of language; it is but the artist's voice, not the spiritual revelation. Always the superficial will confound the two, and, in sheer despair, artists have from time to time—individually at first, and subsequently in bodies—broken out in rebellion; scholarship they see exalted and their own voices ignored; so they say: "Away with scholarship; we will no longer give ignorance the obvious for his delight; we must shock it out of its snug complacence in its cultured mind; we will give it a 'symphony' or a 'nocturne.'" John McNeil Whistler did this, and, of course, the great British public were scandalised, and stormed and raved and called him a charlatan; but Whistler was an artist, and after a while another and yet another artist heeard his voice and soon it echoed round the whole world!

It is the artist soul in rebellion which made the post-impressionist say: "Yes, every fool knows that the human hand has four fingers and a thumb; I'll make the total six! Correctness of detail has no earthly connection with my art, but its deliberate neglect will, I sincerely hope, frighten the critic from his contemplation of the externally obvious and clear the way for some sympathetic soul with which I may hold fellowship for a little space."

Have I made it clear that, in my opinion at least, the essential art in a picture, for instance, lies deeper than in even the highest efficiency in its rendering? I hope so.

I have so far endeavoured to explain the position which scholarship occupies in the production of a work of art: let us try to apply these considerations to the art of architecture.

I have spoken of the two branches of art—the utilitarian and the æsthetic. The art we follow occupies, as it were, an intermediate position between these two. It is an eminently practical art, dealing with human requirements as well as making a claim on our æsthetic sense. If we are to fix its true place among the arts we must properly appreciate this dual nature—a nature, indeed, shared by all the crafts which admit of decorative treatment.

The accumulated knowledge which the exercise of our profession demands, the multitudinous requirements of clients of all sorts and conditions, the necessity of combining the capacity of a man of business with the tact of a diplomat and the temperament of an artist, render the pursuit of our art one of ever-increasing difficulty.

It is clear that in a profession so complex as ours is efficiency will occupy a prominent place. Indeed, I am inclined to think that there is much danger, as the complexity of our calling increases, of this efficiency entirely overshadowing the true artistic element. Modern architectural training tends to increase this danger in the stress it lays on efficiency in the representation of design on the drawing board. Undoubtedly skill in draughtsmanship is of supreme importance to the artist developing his design, but an architect must always remember that the final expression of his art is in the abiding building which his skill creates, and that the draughtsmanship lavished on the preparation of the design is but a memorandum, as it were, of his conception.

How very different are the conditions under which we produce our art from those which affect the professors of the other fine arts. The painter can reveal himself on his canvas in any way his mood or fancy dictates; the musician can weave melodies of sunshine or storm, of laughing children or of grim despair absolutely without regard to external limitations; but for us, our work is done to meet the special requirements of a particular client; the building we produce must conform to his idea of fitness and must be capable of realisation at a stipulated outlay; our choice of material is circumscribed by local conditions; our design must be finished in an incredibly short time; it must be sufficiently elaborate to make an accurate tender for its erection to be obtained. We cannot ourselves translate our idea into brick or stone, but must entrust it to another who will call to his aid a score or so of honest, but quite unsympathetic craftsmen. Is it, then, a matter for surprise that when we have fulfilled all these conditions, and when our conception has, at last, been materially realised, the essential art, or the impress of our own individuality, that quality in which the real art exists, should be difficult to discover?

Now, though these limiting conditions under which we produce our work are irksome, they carry a compensation with them in so far as they tend to foster, what is essential to all good art, the spirit of restraint.

The exhibition of the work of French architectural students, which this Association not long ago organised, illustrated very forcibly the riot which ensues when the restraint of practical conditions has been removed. Wonderful, indeed, was the skill with which these designs were illustrated; here we had the apotheosis of draughtsmanship; but I, personally, do not remember seeing any indication of the spirit of reserve, no sense of appreciation of the beauty of simple form; once more if I may, gentlemen, designs magnificent in scholarship, lifeless in art.

This is the outstanding danger which threatens the art of architecture in the present day—the call for efficiency. The "Registrationists" are clamouring for it as the test to which all who are to be permitted to practise our art must submit; our architectural schools are trumpeting the success of their students, turning out scores of them steeped in scholarship, prodigies of skill in the delineation of design, young men who will sweep all the great architectural competitions before them, just because they can produce that which the public—and even the great majority of architectural assessors—can appreciate, namely, the outward presentment, the evidence of scholarship. Even so have our Universities in the past devoted all their energies, all their accumulated wealth, to producing scholars highly efficient, carrying on the traditions of the public schools where first the suppression of individualism began.

I know it will be said that the world is better served by efficient men than by permitting the individual to develop along his own particular line. Of course this is to a large extent true. It may be, however, that the terrible European crisis through which we are now passing may go far to reveal its falsity. Efficiency has been the object of all German education for many years (they call it culture, it seems!), but I would ask you, Has it produced great artists? I do not think it has. German art just lacks that humanity without which, no matter how scholarly the worker may be, only a lifeless thing will be wrought.

Let me repeat my earlier definition of art—

"A temperament seen through the medium of nature."

But, surely, it will be said, you cannot consider art apart from its relation to beauty? Is there not an excellent definition of art which reads somewhat like this?:—

"The spontaneous manifestation of the deepest
Feelings and thoughts of men in forms of beauty."

An attractive definition this, but one, I think, dangerously misleading.

If we are to consider this definition we must make up our minds clearly as to what "beauty" means. I think such a consideration may be useful. Kant defines "beauty" thus:—

"Beauty is only a relation between the concept of the beautiful object and the perceiving mind."

Here is a clear denial of beauty in the object itself. I think I can illustrate Kant's meaning by a reminiscence.

Walking with a friend one late autumn day we came to the top of a gentle rise in the road, and before us, some few miles off, stretched the deep blue of the Irish Channel and above it hung a great rose-tinted cloud. We had been discussing "beauty" as we walked, and here I saw my opportunity. "What a beautiful cloud," I said, pointing to it. "I don't see any beauty in it," said my friend. "But it is beautiful," I reiterated. "On the contrary, it is an absolutely ugly cloud," he replied. I became indignant: "It's

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beautiful, and that's the end of it." "I'm glad you've finished," he said, "for it is the ugliest cloud I ever remember seeing." And so we walked in silence towards the sea. The amber cloud still hung suspended in a turquoise sky in the sunlight of that still morning—a cloud at once beautiful and ugly—a freak, an impossibility. And so Kant's theory—or rather definition—had a fresh significance for me. There is no abstract beauty in the object itself. As soon, however, as the eye, or other sense, perceives it, it is referred to the æsthetic judgment of the individual, and at the moment this æsthetic judgment pronounces it beautiful beauty is born.

May I carry this consideration of what "beauty" is and see if a similar consideration may not apply to art?

I have tried to show that the art in a picture, for instance, lies in the manifestation of the soul of the artist who produced it, that where this manifestation is absent there is no art.

If this be a statement of fact and not mere fancifulness, a picture is in itself a lifeless thing which may hang from year to year on the walls of a public gallery; it may attract thousands of people by its technical excellence only or the interest of its subject. One day, perhaps, a little child standing before it may find his eyes filled with wonderful tears, and so Art, like Beauty new born, leaps from the canvas.

Does all this appear to you as fanciful? I believe myself that the truth is not very far off. We have wandered together for a while seeking for the light; if we have gained even a far-off glimpse of the radiance gleaming under the great gates of revelation, the time occupied on our journey together will not have been altogether mis-spent.

THE CIVIC DEVELOPMENT SURVEY AS A WAR MEASURE.

AT a meeting held on Thursday last week at the R.I.B.A. premises, Conduit Street, W., an account was given by Mr. H. V. Lanchester, V.P.R.I.B.A., of the scheme of the Architects' War Committee as to the proposed civic survey. In his opening remarks he pointed out that an important part of the work of that Committee is the provision of work for those architects who are deprived of a livelihood owing to the war. It is all very well, he said, to raise the cry of "Business as usual," but it soon becomes obvious that when a large proportion of the national earnings have to be devoted to carrying on warfare on its present scale other industries involving the employment of capital must suffer, and that, after making due allowance for those professional men who are qualified and able to join His Majesty's Forces, there must still remain a very large number who are placed in a very difficult position, not only among architects, but in other professions connected with building and all forms of activity involving the use of capital.

In looking around to see how such professional men could be most usefully employed the Professional Employment section of the War Committee came to the conclusion that the work of civic development should take a prominent place in their programme, and that as such work was of general utility it ought to receive support from the nation as a whole.

The efforts to secure this support have received a measure of encouragement sufficient to justify perseverance in these activities. A general scheme of administration has therefore been sketched out by the Professional Employment Committee.

The Committee suggest that the work be grouped under the following headings:—

1. *Archæological.*—Comprising records of all sites and buildings of architectural or historic interest, with positions and particulars indicated on maps. All existing information collated and deficiencies supplied. Suggestions for the use and preservation of buildings obsolete for their original purposes.

2. *Recreation.*—The study of existing information. Position, character, and areas of parks and recreation grounds; the extent to which they are used, and the location, density, and general status of the inhabitants using them. Public buildings, such as libraries, baths, &c., on the same basis. Private playing fields, golf links, &c., dealt with on similar lines. Natural features of exceptional interest. Suggestions as to correlation of all these, neighbourhood, centres.

3. *Educational.*—Study of existing statistics as to educational facilities and the local demands on them; diagrammatic indications of grade, attendances, and the operations of private and religious bodies.

4. *Hygiene.*—Existing statistics are here fairly complete. Study of these in relation to physiography and population density, with results shown graphically.

5. *Commerce.*—The indication of existing (and probable future) centres of employment, their character, the number of employees, the localities they occupy, average wages, &c.

6. *Traffic.*—Railway, water, tramway, and road facilities with the existing traffic. Capacity of each and probable future developments considered in relation to traffic.

7. *Valuation.*—Graphic rendering of relative values of all land and buildings.

8. *General.*—Collection and classification of maps, illustrations, and statistics of other towns, British or foreign, displaying similarities in their growth and circumstances.

The information gathered under the above eight headings would be placed in graphic form on ordnance maps, thus giving facilities for comparison between the various factors and forming a permanent record of present conditions and future possibilities. The whole would be arranged in a form suitable for publication if required, but the confidential character of some of the information would, in the opinion of the Professional Employment Committee, necessitate that exhibition or publication should be at the discretion of the municipal authorities. Subject to this proviso, the results would naturally be gathered together to form a civic museum open to the public which would be bound to exercise an important influence on the future of the city.

Mr. Lanchester said he had endeavoured to subdivide all the above work into groups and had prepared what might be described as specimen sheets showing how the work may be carried out by many who have had so far no previous training, except a sound general education coupled with the discipline of some employment, so that workers of all kinds may be brought into the scheme by a good system of organisation and by clarity of definition in these subdivisions.

The draft specimen sheet for archæology was, for instance, divided into two sections—(*a*) general and (*b*) special. The first work under "General" would be the preparation of a plan of the city (using six-inch ordnance sheets) showing by different hatchings its extent at the following periods:—Roman, 500 to 1700, 1700 to 1831, 1831 to 1851, 1851 to 1871, 1871 to 1891, 1891 to 1901, and 1901 to —. Supplementary notes would be given as to the reasons for periods of stagnation and development and as to any salient features of the city as a whole at various dates, such as lines of wall, watercourses, &c. Old maps and views should be collected or copied and arranged in order of date. Reference should be made to those in existing collections, stating where they may be found.

Under "Special Archæological" Mr. Lanchester suggested the following features should be plotted (if necessary) and tinted on ordnance sheets:—British camps, Roman camps, battlefields, other historic sites, Roman roads, Roman buildings, mediæval buildings, buildings dating from 1500 to 1700, buildings of exceptional architectural interest since 1700, and buildings of historic interest (such as residences of great men) since 1700. Each site or building to have a reference number referring to a folio in which all the information, drawings, views, &c., shall be collected. This information should include the names of present owner and occupier, full description of past and present use, particulars of alterations and restorations, list of books and illustrations dealing with it, stating where same may be found. A suggestion might also be made, he thought, as to uses for interesting buildings that are obsolete for their original purpose.

Under the heading of "Education" Mr. Lanchester suggests that as bases of information use should be made of the reports of the Education Department, of the Education Committee, and of the County Council; census returns and reports of juvenile labour exchanges. Indication should be made on ordnance sheets as to the position of provided schools; non-provided schools; secondary, private, and boarding schools; and of universities and technical institutes for specialised teaching. Against each place (or on the margin of the map) there should be placed a group of similarly coloured squares proportioned to number on register of each institution (say one-eighth of an inch square to each twenty), with percentages of accommodation provided and attendances and a reference number referring to detailed description, area from which students are drawn, their playgrounds, and other statistics in special folio. Notes should also be made as to scholarships, physique, and circumstances

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of students, teaching methods, &c., and further studies correlating to other sections. Also as to subsequent careers of students as related to the education they have received.

Now that the development of our cities has been made by the Town Planning Act a matter of public initiative it is urgent, said Mr. Lanchester in conclusion, that the mass of information comprised in the civic development survey should be placed in a convenient form before those who are concerned in carrying out that Act. But of far more importance than this (for after all the expert can get a great deal of the information he wants by digging for it) is the influence that would be exercised on the general public, substituting a fine ideal of communal life for a narrow individualism.

THE BEAUX ARTS COMMITTEE.

WE have on previous occasions of attendance at the Wells Mews Atelier noticed a meagreness of exhibited work, and this, too, was the case on December 16. With the explanation we could, of course, fully sympathise, for the call of King and country is properly paramount.

But the limited exhibition would matter but little were the material good; unfortunately, however, this desirable adjective was not widely applicable to what we saw. In the design for a town house Mr. P. M. Ware was, to our mind, first in the field for the planning of that very important department the service basement; he showed a well-ordered and well-lighted plan, such as was not to be seen in the other designs. The library, placed in the rear on the ground floor away from the entrance and street, was also commendable. Mr. Gooder's plan was rendered *hors concours*, as it departed so materially from the esquisse, and, though an improved plan resulted, the excessive disregard is to be deprecated among students. "An Architectural Title-page" for a work on English Renaissance Architecture met with very limited success. Perhaps Mr. G. H. Cottingham's may be regarded as the best, as it showed distinct grasp of book-cover design, though architecturally the proportions were not satisfactory, nor the design in English Renaissance. Though the jury could not give a "mention" to any design for this twelve-hour study, yet they regarded Mr. Richard Duckett's as the best (to which view we are entirely opposed), and Mr. O. Bellamy's as next best, because it showed a more or less English Renaissance design.

In the monthly study for an eighteenth-century staircase in a nobleman's house, once again we regard Mr. Cottingham as taking first place with his Adams design, but the great black space of walling on the first floor and the disproportionate size of the enriched statuary are defects in an otherwise simple and dignified design; here, too, the jury took a different view. The only study that earned a "mention" from the jury was Mr. Marcel Villanueva's bay window to a club-house, and we were in full accord with this judgment. Mr. Duckett erred in too great emphasis of the centre portion (the face) of the bay, and Mr. L. H. Bucknell's design was anæmic. We hope on a future occasion to see a larger and a better display.

THE SOCIETY OF ENGINEERS (INCORPORATED).

THE fifth annual general meeting of the Society of Engineers (Incorporated) was held at the offices of the Society, 17 Victoria Street, Westminster, on Monday, December 14.

The awards of premiums made in respect of papers published in the Journal of the Society during 1914 were announced as follows:—

The President's Gold Medal to Mr. A. S. E. Ackermann, for his paper on "The Utilisation of Solar Energy."

The Bessemer Premium, value £5 5*s*., to Mr. A. S. Buckle, for his paper on "Cylinder Bridge Foundations in the East."

The Clarke Premium, value £5 5*s*., to Mr. S. M. Dodington, for his paper on "Mechanical Appliances for the Painless Killing of Animals."

The Premium, value £3 3*s*., for members of affiliated societies, to Mr. R. H. Cunningham (Crystal Palace Engineering School), for his paper on "Irrigation in India."

A Society's Premium, value £2 2*s*., to Mr. James Tonge, for his paper on "Uses of the Hydraulic Mining Cartridge."

The report of the Council, which was adopted, referred to the amendments that are being made in the articles and by-laws, and stated that the financial position of the Society was satisfactory. A list of members of the Society serving with the Allied Forces was included in the report. The scrutineers of the postal ballot reported that the following had been elected as members of the Council and officers for 1915: President, Norman Scorgie; Vice-Presidents, Percy Griffith and Henry C. Adams; members of Council, Henry Adams, C. T. Walrond, S. Cowper-Coles, B. H. M. Hewett, F. H. Hummel, G. A. Becks, F. L. Ball, W. B. Esson, G. O. Case, and W. N. Twelvetrees; Associate Member of Council, C. E. May; Hon. Secretary and Hon. Treasurer, D. B. Butler.

Messrs. Begbie, Robinson & Cox, Chartered Accountants, were re-appointed as auditors for the year 1915.

LONDON MASTER BUILDERS' ASSOCIATION.

THE forty-third annual general meeting of the London Master Builders' Association was held at Koh-i-Noor House, Kingsway, W.C., at 4 P.M. on December 16, 1914, the chair being occupied by Mr. Walter Lawrence, jun., President.

The report of the Council for the year was received and adopted.

Prior to proceeding with the election of the officers and members of the Executive Council for the ensuing year, an especially pleasing function occurred. In October last Messrs. Ernest J. Brown and James S. Holliday, both Past Presidents of the Association, issued a circular to all members containing the following:—

"Although the recent 'trade dispute' is perhaps nearly forgotten, the members of the L.M.B.A. will not readily forget the services rendered throughout this prolonged dispute by the President, Mr. Walter Lawrence, jun., who not only devoted his time and energy unsparingly, and consented, at the urgent request of the Council, to extend his term of office for two years, but also protected the interests of the Association with conspicuous ability."

The result culminated at this meeting, when Mr. Brown, on behalf of the Association, presented Mr. Lawrence with a handsome silver centrepiece and two fruit dishes inscribed as follows:—

"Presented to Walter Lawrence, jun., by the London Master Builders' Association as a mark of appreciation of his devotion to its interests during his Presidency 1913-15."

The sentiments expressed by Mr. Brown, who was supported by Mr. Frank May, having been received with unanimous acclamation, the President suitably returned thanks and assured the meeting that the interest of the Association would continue to receive his earnest support and attention.

The following elections were made for the ensuing year—namely: President, Mr. W. F. Wallis, J.P. (Messrs. G. E. Wallis & Sons, Ltd.); Senior Vice-President, Mr. Edmond J. Hill (Messrs. Higgs & Hill, Ltd.); Junior Vice-President, Mr. Wm. Downs (Walworth); Treasurer, Mr. F. Shingleton, M.V.O. (Messrs. Leslie & Co., Ltd.); Hon. Auditor, Mr. C. Elliott (Messrs. Dove Bros., Ltd.); and nine members of the Executive Council to fill vacancies occurring in accordance with the rules of the Association.

R.I.B.A. EXAMINATIONS.

THE FINAL: DESIGNS APPROVED.

THE Board of Architectural Education announce that the designs submitted by the following students who are qualifying for the Final Examination have been approved:—

SUBJECT XVII.

(*a*) DESIGN FOR AN ELEMENTARY MIXED SCHOOL.

Aslin: C. H.	Holden: W.	Palmer: J.
Bisiker: R.	Keep: N.	Picton: C. S.
Brown: J. McL.	Lancaster: C.	Pite: I. B.
Brown: W. J.	Langrish-Toye: F. C.	Routley: L. J.
Dailey: A. B.	Loweth: S. H.	Smith: T. H.
Dougill: W.	Riddleton: V.	Tanner: A. S.
Filkins: E. W.	Minns: S. E.	Walker: H. F.
Hall: R. B.	Mitchell: C. H.	Watt: W. J.
Hariand: N. G.	Nathaniclsz: J. J.	Whitehead: P.

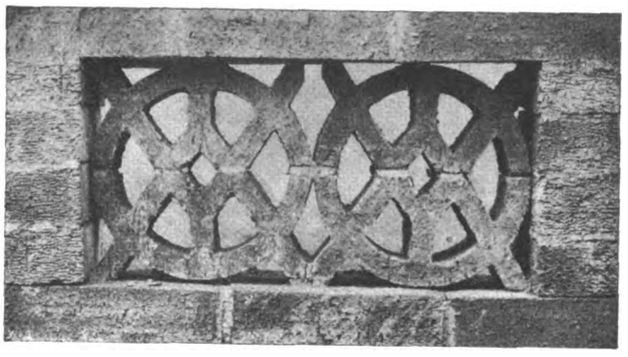
(*b*) DESIGN FOR A CONCERT HALL.

Derry: D. C. L.	Gooder: F. E.	Lyne: E., Junr.
Dold: R. F.	Howcroft: G. B	Shearer: T. S.
Evans: T. C.	Hull: V.	Takekoshi: K.

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CARVED BRICKWORK.

MOST of the older authorities agree in repeating a tradition that no buildings were built of brick in this country from the end of the Roman occupation until the reign of Henry VI. Nowadays we have come to believe that such an assertion must be qualified. But there can be little doubt that brick-making did not again flourish in England until towards the end of the fourteenth century. Even then its surface was rarely visible through the coating of whitewash or plaster. By the seventeenth century, however, the decorative possibilities of the material, its colour and texture, had come to be appreciated. It is those same qualities which render "blocks of common clay" so dear to the artist of to-day, and capable of such satisfying results when used appreciatively. Our best brickmakers are, fortunately, alive to the situation. No architect need now turn his back on the kilns and look only towards the quarry when he is visualising his next building, whether it be great or small. As was said not long ago, "with glazed bricks and rubbed bricks, with recessed joints and lime cream, and with all the varieties of bond, what may a clever man not achieve?" The full palette of colour must not be overlooked, nor the carving with which the surface may be enriched. Our two small illustrations are very simple specimens of the sort of carved brickwork in which the Ravenhead Sanitary Pipe and Brick Company, Ltd., have been more or less experimenting for the past few months. This Lancashire firm have in the past built up a reputation for good bricks and for intelligently studying architects' requirements—a practice they are still pursuing. Their latest development is full of interest. It is well to emphasise the fact that "Rus," its registered name, is really carved and not moulded brickwork. Every design is specially carved, so the work should never become stereotyped. No moulds or patterns are employed. The cost, we understand, works out at a very moderate figure. In preparing the design regard should be paid to the nature of the material itself. This warning may be necessary to some architects who might overlook the need for judicious restraint. "Rus" carving is deserving of careful attention from all those who have an affection for brickwork and wish to carry on the not ignoble English tradition.





THE TOWER OF ST. HILDA, HARTLEPOOL.

By J. TAVENOR PERRY.

IN the ruthless attack by the modern barbarians on our old towns of the East Coast the shrines of St. Hilda at Whitby and Hartlepool have again suffered as they did from the heathen of the ninth and tenth centuries; and the venerable ruins of St. Hilda's Abbey at Whitby and her church at Hartlepool have been the marks against which their "cultured," though less civilised, representatives have hurled their deadly missiles. The exact amount of the damage done either to the abbey or the church has not yet been accurately described, but we know sufficient for our grief when we are told that the remains of the former have been "knocked about"—a trying circumstance for any building already in decay—and that a shell fell upon and passed through the roof of the church and damaged it with its explosion.

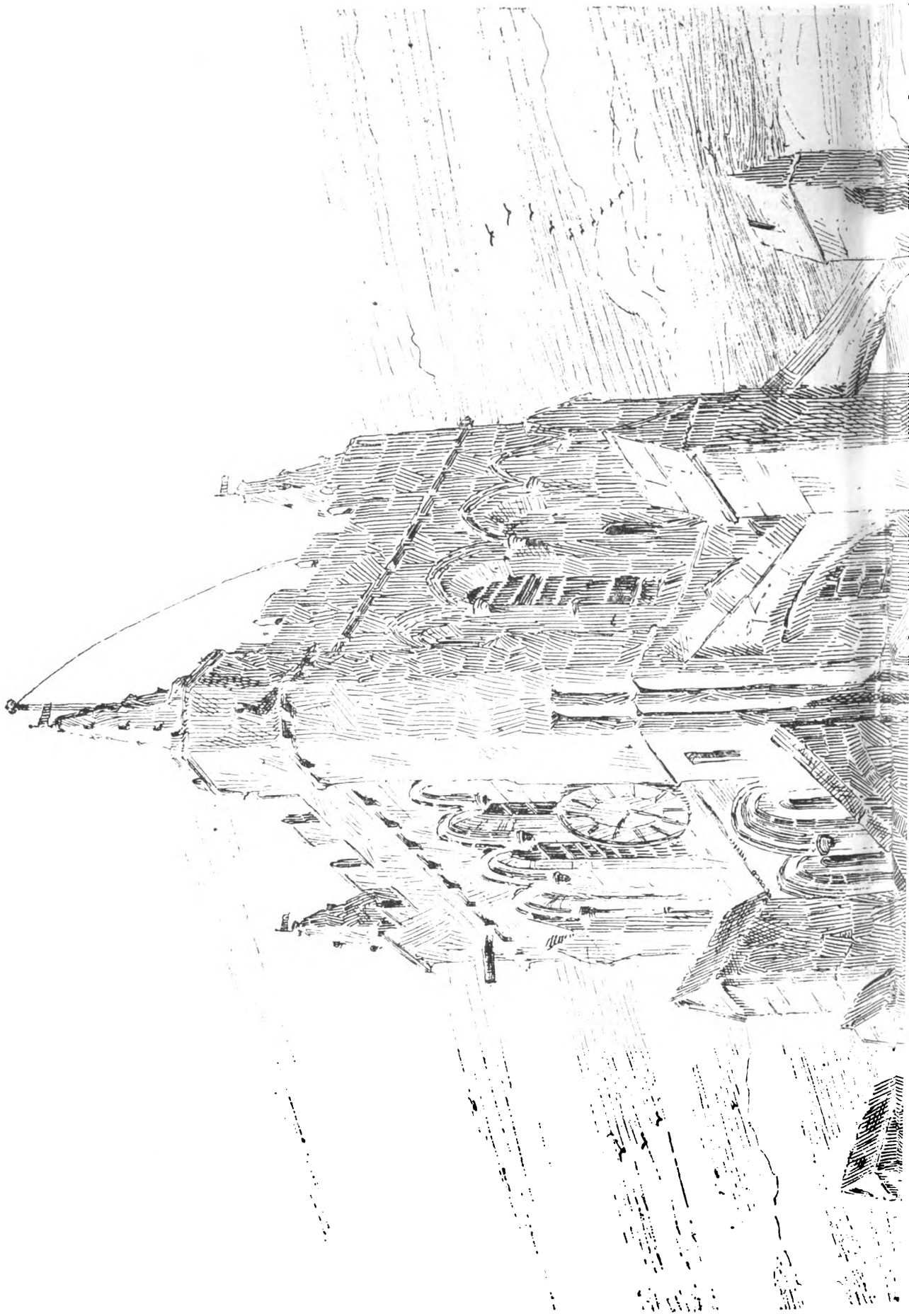
The church of St. Hilda, Hartlepool, is one of the most important as well as one of the most beautiful churches remaining in the County Palatine of Durham, and it is specially interesting as being wholly in the Early English style and the work of the commencement of the thirteenth century, with the exception of a fine Norman south doorway re-used from a still earlier church. But the earliest church of all—if not on the actual site, at least on the rock peninsula whereon the present church is built—was due to the missionary efforts of St. Aidan about 640, who founded a convent which a few years later fell under the control of St. Hilda, before she moved to Whitby, and although no traces of it remain, the tombstones, or rather the pillow-stones, of her mother Brigusuid and her sister Heresuid were found during the last century undisturbed in the ancient conventual graveyard. The builders of the present church were members of the Bruce family, afterwards so intimately connected with the history of Scotland, who became lords of Hartlepool after the Conquest, though the Bishops of Durham retained some rights over it, for the Bruces paid them scutage for the Manor—a fact which left its mark on the history of the church. The oldest son in this family was always a Robert Bruce, as confusing for identification as the Henries of Reup, and the church of which the doorway is a relic seems to have been the work of the third Robert, who died somewhat before 1190, while the rebuilding was due to the brother of Robert the fourth Bruce, whose name was William, and who held the manor from 1191 to 1215. This church consisted of a nave and chancel, each with aisles, but without any break in their long length by transepts, and apparently from the first always intended to be covered with wooden roofs. The chancel fell into a dangerous condition for want of repair, and was cleared away, except the westernmost bay, in the eighteenth century, and the tomb of the founder, which stood in the centre of it, left to rot away into ruin; but the most beautiful nave, well restored, existed, before it underwent its shelling, in its pristine glory. Its details are well known to most architects, but we may mention that it is 83 feet 7 inches long, while the chancel, when complete, extended 70 feet 6 inches beyond. An account of the tower which we illustrate demands some detailed description, not only for its peculiar character, but for the reasons which have been given for it.

This tower, which is of a very massive construction and was no doubt originally intended to be crowned with a spire, consists of three stages, the lowest one vaulted over at a height of 35 feet and evidently intended to be open to the nave, and above that the ringing chamber and the belfry. It is evident that it began to fail from insufficiency of foundations, or some, then unknown, cause long before its completion, and the unfortunate expedient was adopted of filling up the great opening to the nave and the upper portions of the western flying buttresses, and thus adding to the weight to be carried. The true cause of the failure was not discovered till the end of the last century, when preparations for a restoration and the removal of the filling-in wall were made by the late Mr. Hodgson Fowler, of Durham. It was then found, when the ground was opened, that a streak or pocket of clay crossed the centre of the site of the tower from north to south, and that part of the great south buttress of the western font had under it a fissure in the limestone rock on which the church stands. An attempt to fill this up with liquid cement was a failure, for as fast as it was poured in it was blown back again into the faces of the operators by blasts of wind from some hidden cave below. Indeed, the whole of the magnesian limestone of the subsoil is full of caves worked out of the softer stone by the action of the waves, producing on the coast most curious formations; and it is to be remarked that it also contains large masses of so-called "stink-stone," like the famous *pierre qui pue* which forms the tomb of St. Hilary's daughter at Poitiers.

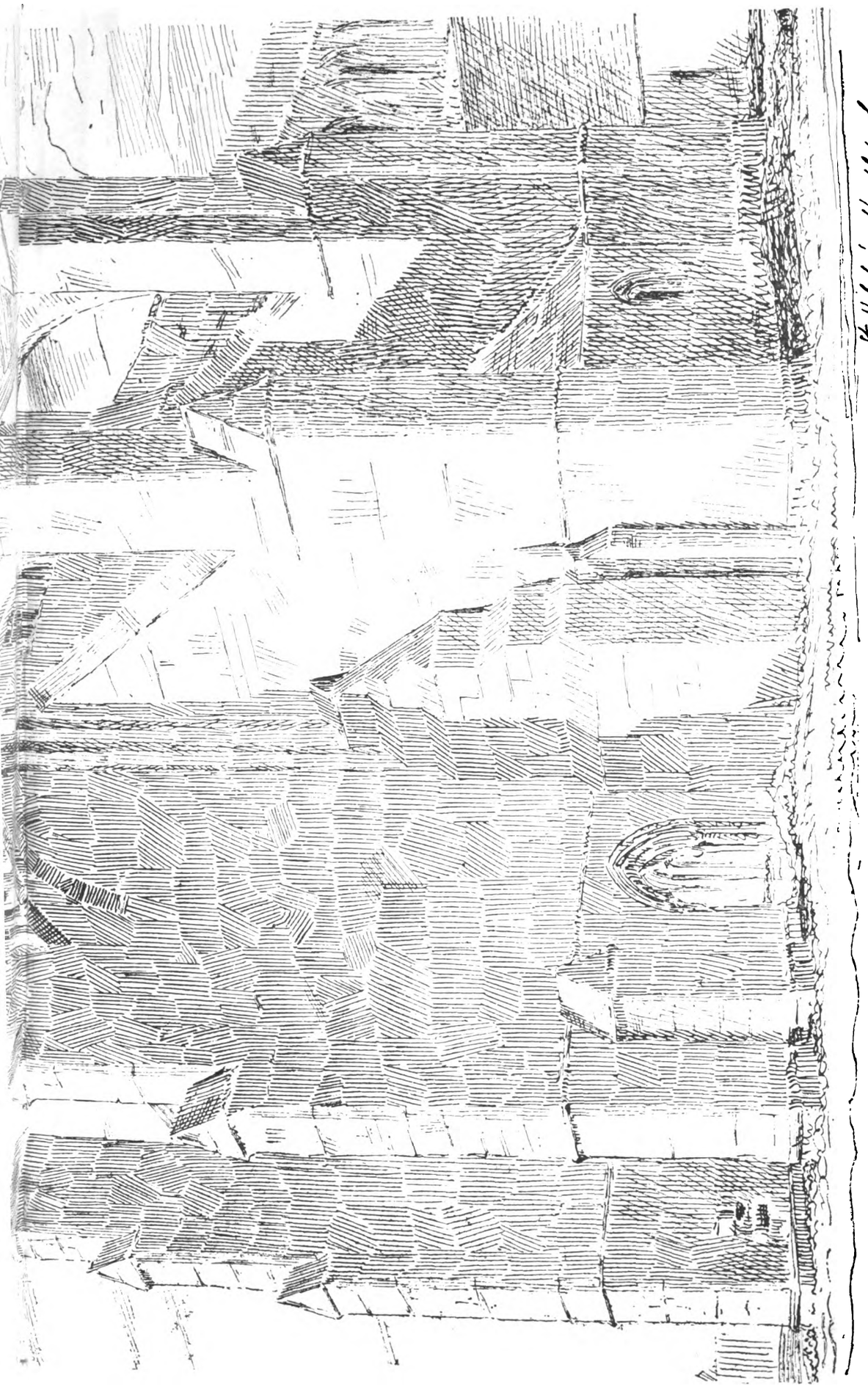
But the great spread of the western buttresses was not due to any failure of the foundations, and formed part of the original design, forming a great western addition to the tower which was doubtless intended to be a galilee and be used as the Bishop's Court. It was 20 feet square and too large for an ordinary porch, and was, or was

(*Continued on page* 543.)

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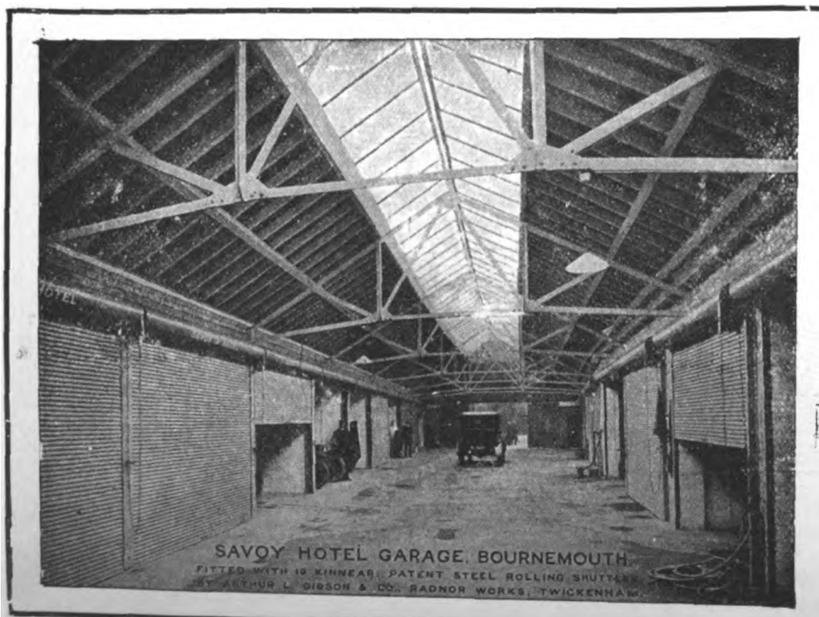
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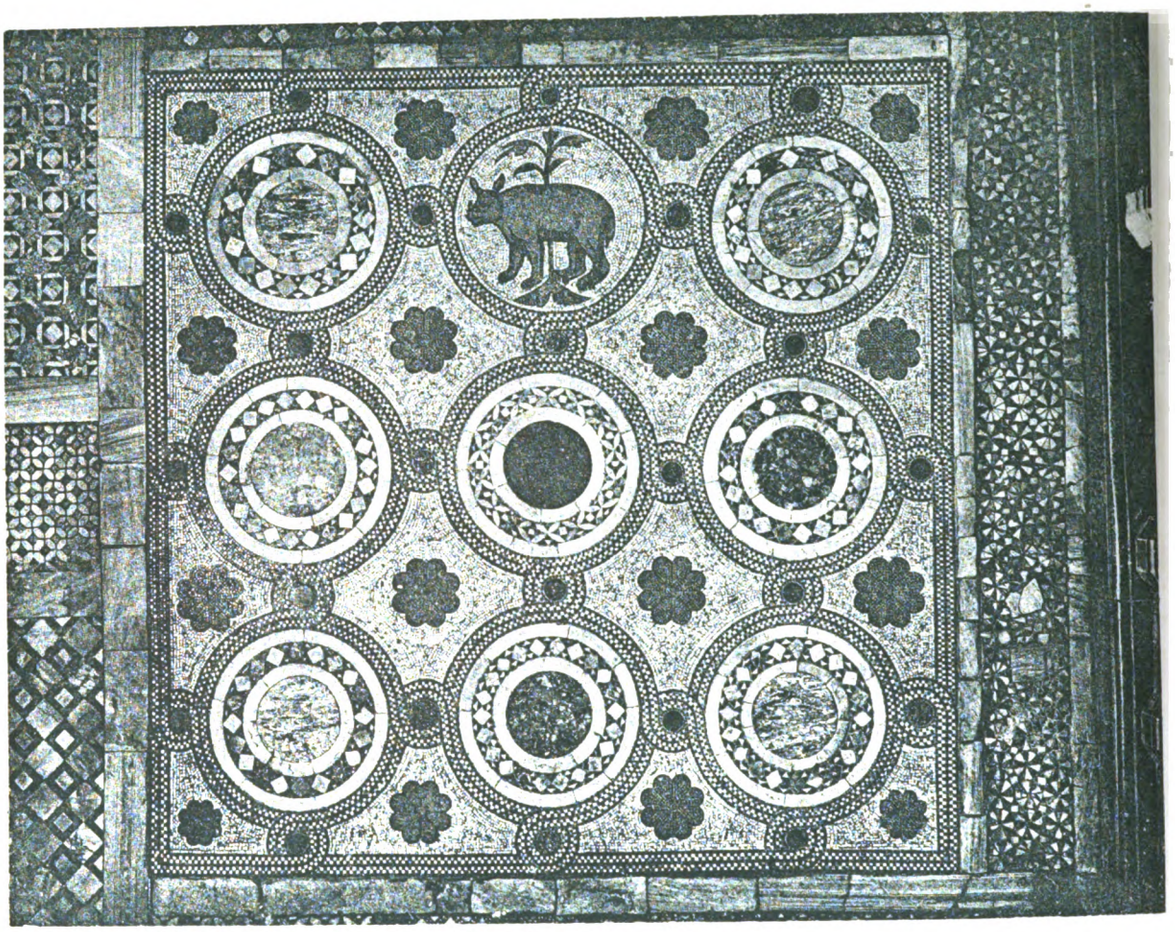
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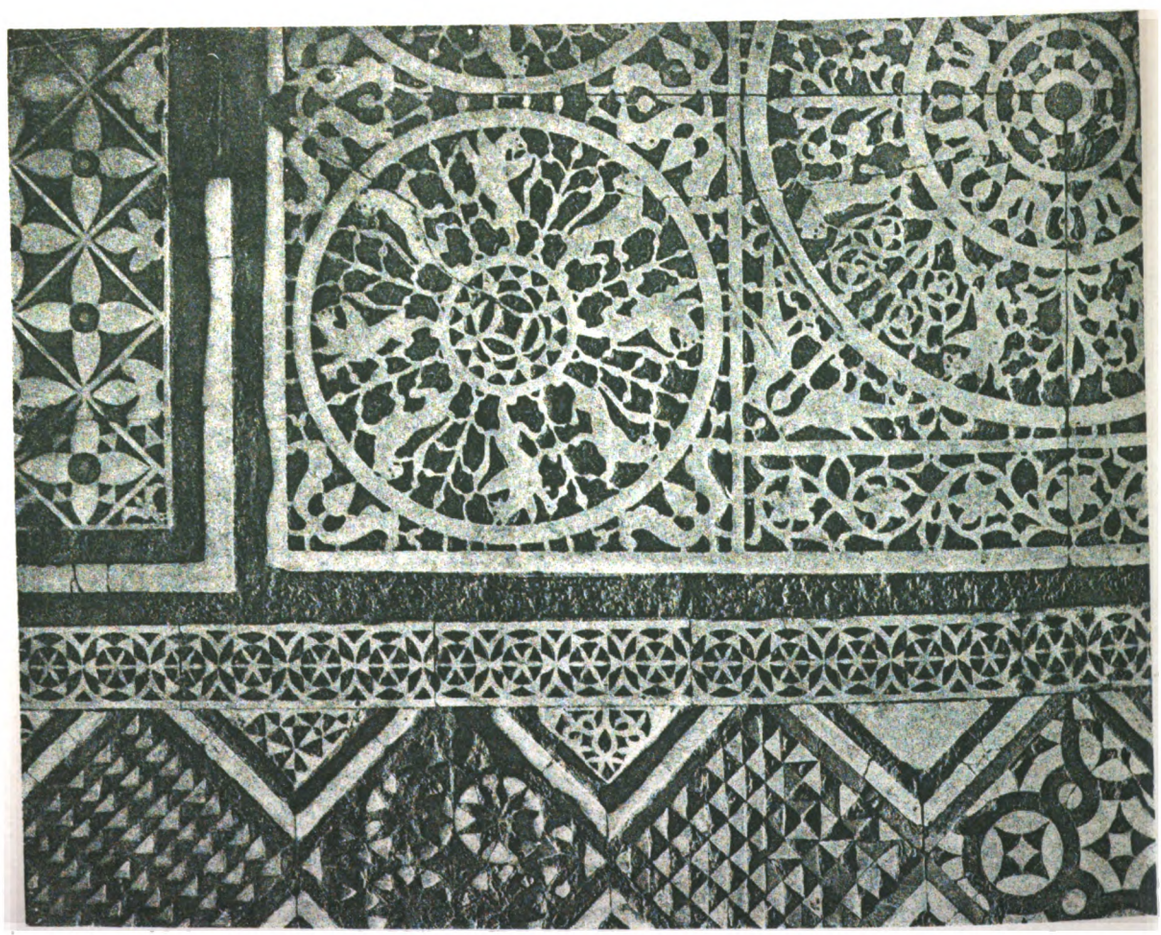
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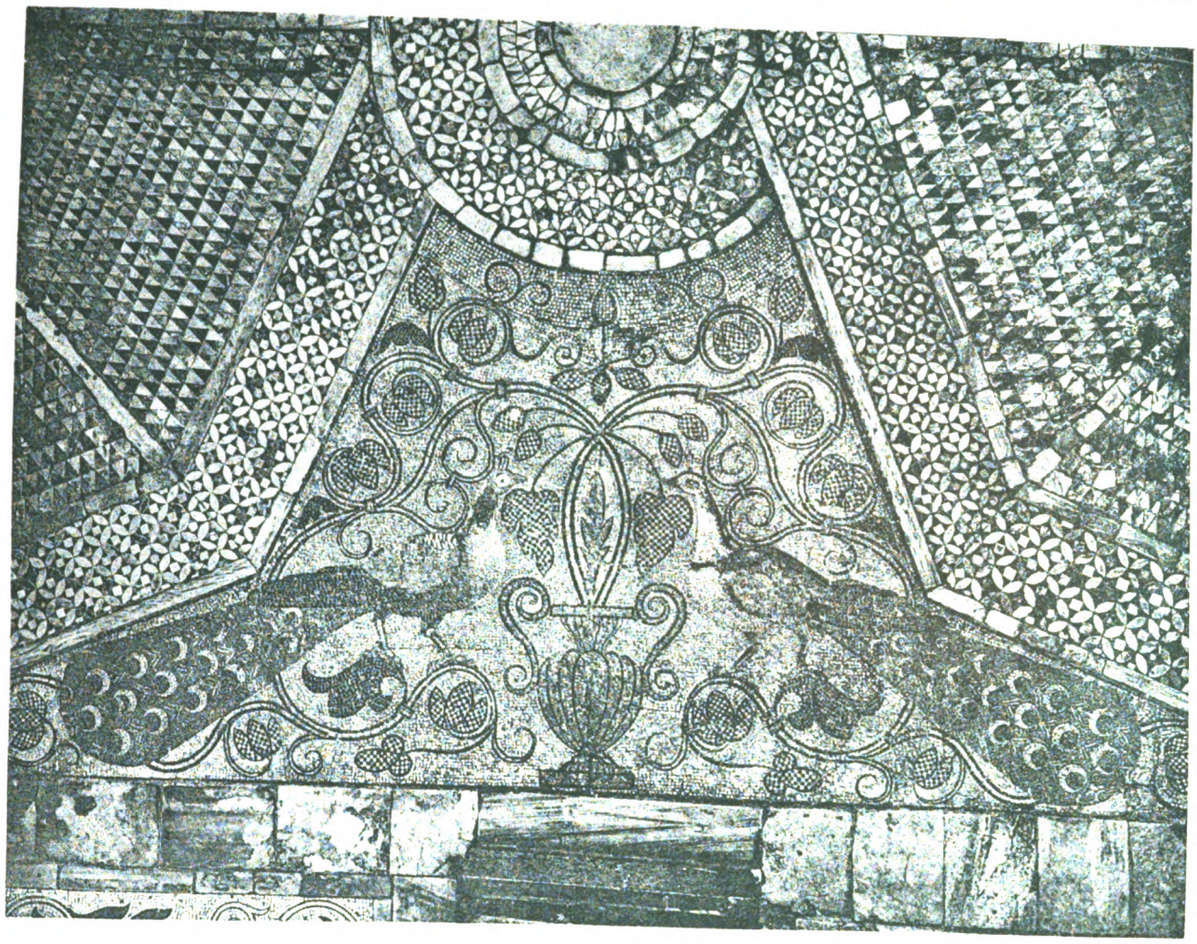
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THE BAPTISTERY, FLORENCE.

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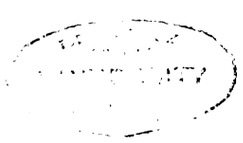
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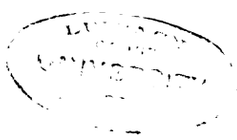
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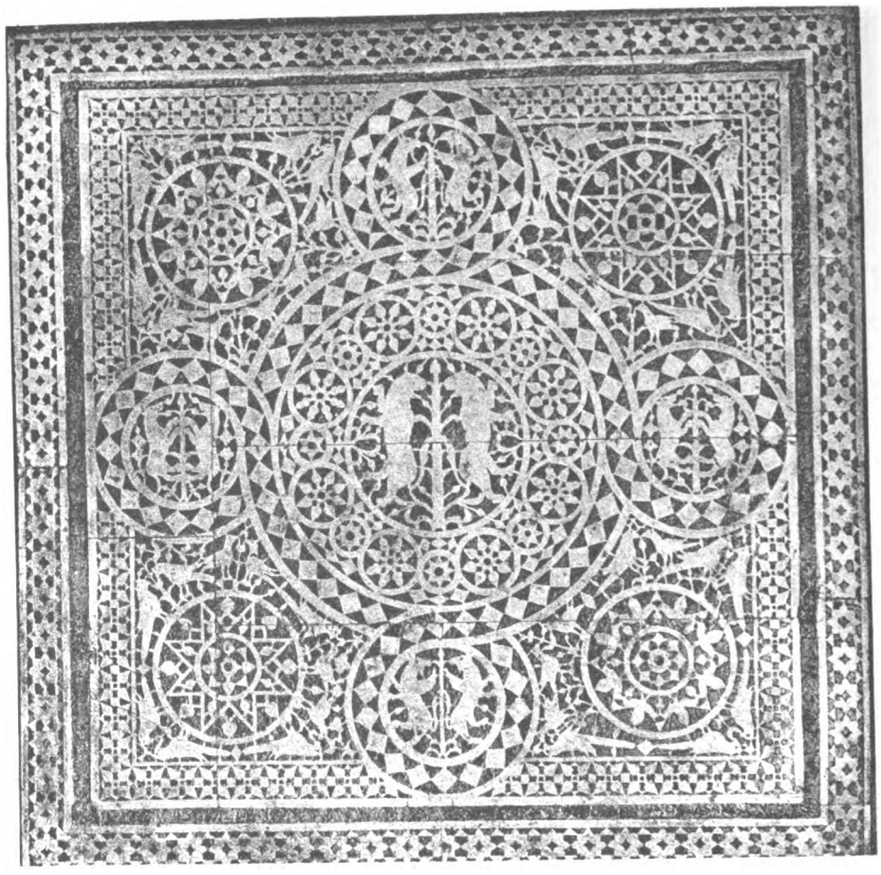
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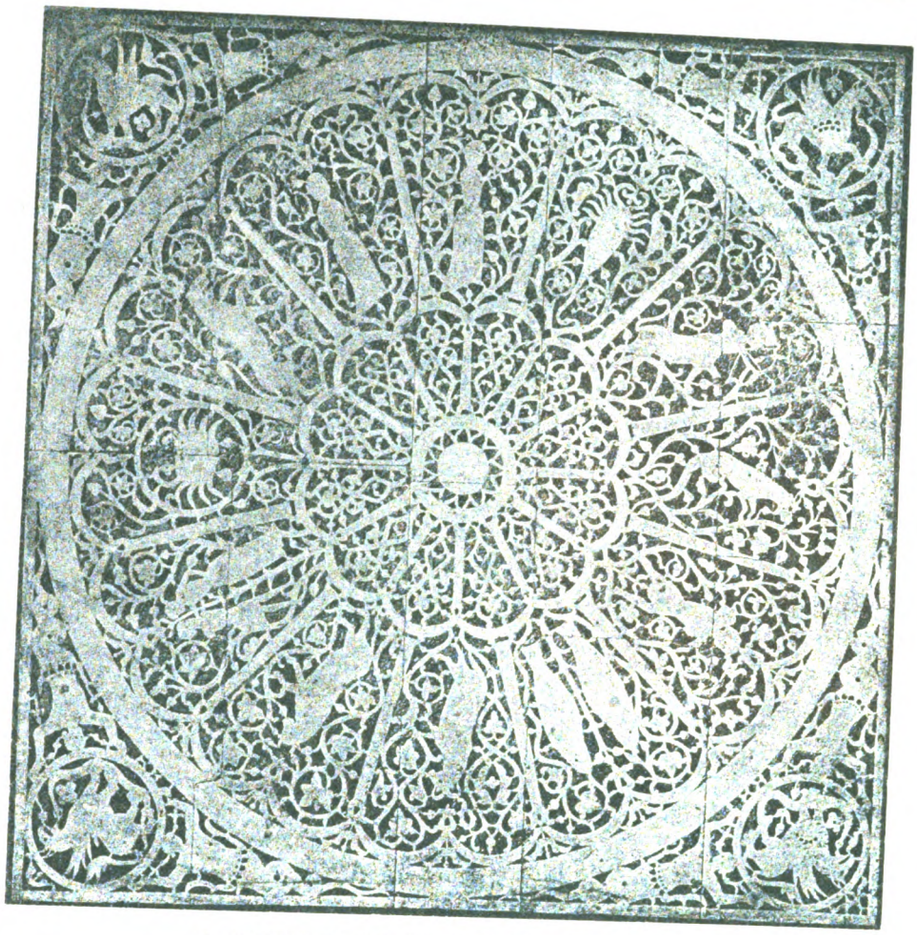


SIENA CATHEDRAL.

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The Architect, Dec: 25th 1914.



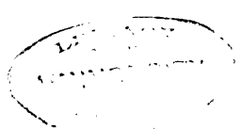
S. MINIATO AL MONTE, FLORENCE.—THE ZODIAC.



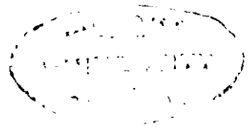
SIENA CATHEDRAL.

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SIENA CATHEDRAL.—HISTORY OF FORTUNE.

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SIENA CATHEDRAL.—MASSACRE OF THE FALSE PROPHETS OF BAAL.

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intended to be, vaulted over the ground floor, and had independent entrances to the north and south, the latter in elaborate-moulded doorway, showing in our sketch, and contemporary with the rest of the walling; and it is this peculiarity of arrangement that makes the tower of St. Hilda so very remarkable.

Our sketch is from an original drawing made by Mr. J. Tavenor Perry in 1865 during his Pugin Studentship Tour in Durham.

DOMESTIC METAL WORK OF THE EIGHTEENTH CENTURY.*

By WM. A. YOUNG.

(Concluded from last week.)

THE BEGINNINGS OF BRASSFOUNDRY.

THE rise of the brassfoundry trade in the Midland city is being investigated at the present time by a committee. Birmingham has been the home of the hardware trade for a very long period. Leland in 1538 wrote in his itinerary that: "There be many smithes in the town that use to make knives and all manner of cutting tools, and many lorimers that make bittes, and a great many naylors."

Half a century later Camden set it down that the town "swarmed with inhabitants, and its streets resounded with the noise of anvils." No reference here to brass, and indeed as late as the Restoration iron was the chief metal wrought in the Birmingham shops, where were "produced instruments of war and husbandry, furniture for the kitchen, and tools for the whole system of carpentry." When, however, furniture-makers began to weary of wooden latches and handles, and called for something brighter than iron, Birmingham was ready with new ideas.

In competition with Bristol and other centres where brassfounding was already established, Birmingham set out to win a share of the new business, with what permanent success her present position in this department of metal work attests.

BRASSFOUNDRY WITH A DIFFERENCE.

Side by side with brass-casting there grew up in Birmingham a kindred craft, which was, and still is, described in contradictory terms. Stamped-brassfoundry grew out of the invention of a Londoner named Pickering, a gilt top maker. He patented in 1769 "a new method of performing that kind of work called chasing, for gold, silver, brass, tin, and other metals, but more especially to be used in the production of coffin furniture, also ornaments for coaches, chariots, cabinet brass work and domestic furniture." Pickering claimed that his method was more expeditious than anything then practised, and that it was "far superior in beauty and elegance to anything of the kind (not being actual chasing) ever yet performed."

It is quite clear from this that the cost of chasing was the bugbear of the finishing departments.

TIN WARES FOR THE POORER FOLK.

Brass and copper wares, however, were still beyond the purchasing power of the common people, who were the chief customers of the tinplate workers. All through the century it was a pretty well organised industry, and the interests of those connected with it were well served by the Worshipful Company of Tinplate Workers, *alias* Wireworkers. Their charter was granted in 1670 on the petition of the men engaged in the trade, and the records show that a hundred of the journeymen paid a subscription to the funds raised to secure incorporation. Southwark was the centre of the trade, in which were men who were by no means backward in asserting their rights. They prosecuted pedlars who hawked inferior wares from door to door, they discharged their own officials on proof of their neglect of duty, and fined shifty members of the company who were caught making goods of "damaged stuff and materials." Their authority extended beyond London, as far indeed as Woolwich, Northampton, and Worcester. An interesting bit of special work was the periodical publication of a piecework book, affording the basis upon which wages were paid to workmen. The first was issued in 1695, and the list has been revised seven or eight times, the last occasion in 1900. The list of contents in the fifth edition of 1761 contained the names of many articles no longer used, or, if used, no longer made in tinplate.

PEWTER AS A DOMESTIC METAL.

Until the fifth decade of the eighteenth century the metal commonly used for the table appointments of the middle class was pewter, and a garnish of pewter was to be found in most houses, and also in the mansions of the well-to-do, who would use the ware for everyday use and in the servants' hall. Comparatively little has come down to us, and I explain that fact on two grounds. The metal is soft, and consequently as soon as it went out of daily use, and was no longer subject to continuous care, it would become shapeless and dirty. The other reason lay in the ease with which pewter could be remelted. The commonest articles, plates and dishes, were made by pouring the metal into iron moulds, and there would be no inducement to harbour bent, cracked, and wornout utensils. The lumber-room has saved a great deal from destruction, but why put old plates in the attic when the itinerant pewterer was prepared to melt them down on the kitchen fire and leave you as many, or nearly as many, new ones at the cost of a few shillings? Probably most of the old metal went back to the shopkeeping pewterers, who made an allowance for it consistent with the price of tin and the value of the order for new wares. One meets this "contra" system at all sorts of turns, and it is pretty certain it was customary in all trades.

THE INVENTION OF SHEFFIELD PLATE.

In 1743, however, a new industry was begun in Sheffield, which was to compete with silver in beauty and attractiveness, and in price with pewter. The wares that the new craftsmen began to produce were known as Sheffield plate: they are now universally described as "Old Sheffield Plate." From fragmentary evidence carefully collated, Mr. Bradbury has been able to prove that the volume of business in these wares at home and abroad assumed remarkable proportions.

Most Sheffield plate is what is technically called hollow-ware, and is made from a sheet of metal, silver on one side and copper on the other, or silver on both sides with copper between the two. It was the invention, in 1742 or thereabouts, of Thomas Boulsover, a Sheffield cutler, who hit upon the method after passing a piece of close-plated strip through the rolls. His material was a little too short for his job, and when he found the rolls elongated it without separating the constituent parts he thought the matter out and began to experiment. His process is now known as plating by fusion. The first step was to prepare a copper slab or ingot containing a little zinc and lead. A commonly used size was 8½ inches by 2½ inches by 1½ inches, the last dimension being the thickness. The top surface, or both top and bottom if two silver faces were required, was filed flat and scraped smooth. Then a strip of silver slightly alloyed with copper, or two in some cases, was made ready in the same way, and the two or three pieces were superimposed with the prepared faces in contact. The outside silver surfaces were then covered with other strips of copper or iron coated on the contact sides with whiting. The three, or five, pieces were then wired together and the joints painted with a borax flux. As soon as the last-named was dry the block was ready for the furnace. This was heated with a clean coke or charcoal. As soon as the observer saw the silver begin to "weep"—that is to melt at the edges—he withdrew the block from the furnace with tongs which seized the sides. When the block was cool the wire was removed and the copper plates taken off. The ingot was now ready for the rolls, in which it was reduced to the usual gauges for making hollow-ware, candlesticks, and fancy articles. The quality of the resulting product was, of course, proportionate to the original thickness of the plate or plates of silver, which varied from as little as 1/8 inch to as much as half an inch. The material lent itself to die and press work, to repoussé, and to piercing. Boulsover did not at first grasp the possibilities of his own invention. His own trade lay chiefly in small articles, buttons, buckles, and patch and snuff boxes. A cutler by trade, he seems to have cultivated that side of his business. His apprentice, however, one Joseph Hancock, developed the new industry, and became in time a roller of silver-faced copper to the trade, dropping the manufacture of finished articles as his business grew.

BEAUTIFYING A LONDON HOUSE.

Some years ago I had an opportunity of abstracting some entries from the domestic accounts of a family residing in Dover Street, Piccadilly, with a country house at Gosfield. The period covered extended from 1726 to 1736, during which time the house in Dover Street was "repaired

* Abstract of a Paper read before the Royal Society of Arts on December 9, 1914.

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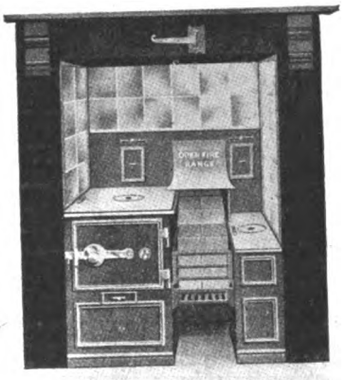
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and beautified at a charge of £850." The Hon. Mrs. Knight was a shrewd businesslike woman, who chose her tradesmen with a nice appreciation of values. Her first ironmongers were William and Charles Sparke, whose address, unfortunately, is not furnished. There were charges for such items as a fish-spit, larding pins, copper pudding boilers and patty-pans, basting ladles, bread-graters, beer pots, and picture hooks. Furnishings for the fireplace include a "copper scuttle, 21*s.*; one pair of steel tongues, 25*s.*; and one pair bow-spring tongues with stay, 2*s.*" You will recognise the last description as referring to those handy little instruments which are always open but cannot spread too wide for a hand's grip, because of the pin from one member through the other.

Mrs. Knight was a patron of her sex in business. There were frequent entries relating to the bills of one Lucy Bayles, who owned a furnishing establishment. There was an account for £116 in 1731, which was largely accounted for by an entry for "Three very fine mahogany bookcases with large glass dores, ye mouldings carved, good locks and brasswork, £81." Apparently the lady furnisher did not stock cabinet brassfoundry, because elsewhere her accounts read: "Paid for locks, hinges, and brass buttons 5*s.* 8*d.*" Mrs. Lucy Bayles's handyman was one "hary," who, judging from the jobs he took in hand, must have been a good all-round workman, and withal an ill-paid one. There could not have been much for the man when the mistress was satisfied with 2*s.* 4*d.* for eight hours' work and 3*s.* 4*d.* for a whole day's jobbing at Mrs. Knight's house. Mistress Bayles had no more scruples about trespassing on other people's preserves than the toy-shop owners. She competed, for instance, with the apothecary when she charged her customer half-a-crown for half-a-pint of Daffy's Elixir.

When repairs were required in what are now called by the estate agents the offices they were entrusted to another class of tradesman. A Mr. Philip Spood was paid 4*s.* for cleaning and mending "Ye jack and new centering ye worm and oylying ye wheels and pulleys." The same man had 2*s.* 6*d.* for some repairs to the casements, 8*d.* for putting a foot on the tea-kettle trivet, and 6*s.* 6*d.* for a new strong-box to hold "ye flambeaus," while for "facing two cast smoothing-irons and a wrought smoothing-iron 4*s.* 6*d.*"

Spood was evidently a jobbing workman, because he was not ordered to supply the new jack when Dover Street was beautified. In a long account, chiefly for carpets, curtains, and fabrics, one, John Cox—a sort of Maple, I take it—included £6 3*s.* for "one large jack with a multiplying-wheel, pulleys, line, and two chains"; but it seems clear Mr. Cox did not fix it, for an earlier item in the account runs "paid a smith to take down and clean a large jack, 10*s.*"

DEFOE ON DISTRIBUTORS.

One other glimpse of these methods of distributing wares made in London and other centres is afforded by Defoe in his account of a tour through East Anglia. The author of *Robinson Crusoe* mentions a fair at Bury St. Edmunds in 1722 "for diversion more than for trade," a "fair for toys and trinkets," but when he came to Cambridge he wrote of Cheapside and several other streets in Stourbridge Fair, which was "kept in a large cornfield near Casterton, extending from the side of the River Cam towards the road for about half a mile." The space is still unbuilt upon. Cheapside is no longer the chief street in what remains of the fair, where the only street that has kept its name is Oyster House Row. One evening in June this year I came up the road from the River Cam and tried to visualise the scene, but the glory of the Fair, which old Cambridge pronounces "Sturbidge," has departed. The cornfield is now a dreary waste and no longer the venue of "all sorts of trades, who sell by retail and who come from London with their goods . . . toy-shops, braziers, turners, and pewterers." I have omitted some, but you may take Defoe's word for it that there were present "all trades that can be named in London."

DURING the twelve months ending last month the Plans Committee of the Aberdeen Town Council sanctioned plans of new buildings or alterations of premises to the value of £101,912, the number of buildings being 214. In the previous year the number of buildings was 258. New dwelling-houses involved a sum of £15,825; business premises, £26,976; public buildings, £21,841; and alterations, £37,270.

BUILDING PROGRESS IN THE PROVINCES AND SUBURBS.

A LIST OF WORKS PROJECTED OR COMMENCED.

(N.B.—Local Authorities, architects, and others are invited to submit full particulars for insertion in this weekly list. Where districts are not entered against names of architects and builders the address is as a rule local.)

ENGLAND.

BERKSHIRE.

Hungerford.—Workmen's dwellings (£1,500).

BUCKINGHAMSHIRE.

Burnham.—"Ivy House," High Street: additions, for Dr. Creasy.

Farnham.—"Hawkins," Beaconsfield Road: additions, for Mr. S. S. Sprigge.

Langley.—"The Crown" Public-house: additions, for Messrs. Ashby.

Wraysbury.—Cottage, Staines Road, for Mr. E. W. Todd.

CHESHIRE.

Chester.—Laundry, cottages, stables, etc., Heath Lane, Boughton, for the Chester Steam Laundry Co., Ltd. Messrs. J. H. Davies & Sons, architects, 14 Newgate Street.

Sandbach Heath.—Cottage homes, for Congleton B.G.

DERBYSHIRE.

Chapel-en-le-Frith.—Sixteen cottages. Mr. C. Flint, architect, 5 The Quadrant, Buxton.

DURHAM.

Bishop Middleham.—Five houses, High Road, for Mr. T. Wilkinson.

Ferryhill Village.—House and shop, Back Lane, for Mr. Forster.

Trimdon Colliery.—Lock-up shop, Grosvenor Terrace, for Mr. T. Dunning.

Winlaton (near).—Council school, Bleach Green (for 1,096 places), for Blaydon Education Committee.

ESSEX.

Chelmsford.—Council schools, South Primrose Hill and Lady Lane.

Frinton-on-Sea.—"Norfolk Villa," Cambridge Road: additions and alterations, for Mr. Harpham.

"Sunnyholme," Harold Road: additions and alterations, for Miss Pedley

Leigh-on-Sea.—Council school, North Street: alterations, for Southend Education Committee (£6,400).

Rochford.—Police station. Mr. G. Topham Forrest, County architect, 73 Duke Street, Chelmsford.

HAMPSHIRE.

Alton.—Workhouse: infirmary. Mr. Smith, architect.

Portsmouth.—Council school, near Gladys Avenue. Mr. G. C. Vernon-Inkpen, architect, 40 Commercial Road.

HERTFORDSHIRE.

Watford.—Infirmary, etc., for B.G. Mr. A. O. Breeds, architect, 26 Portugal Street, Lincoln's Inn, London.

KENT.

Folkestone.—No. 2 Manor Road: additions. Mr. A. R. Bowles, architect, 130 Sandgate Road.

Mersham.—Smallpox hospital for six beds.

LANCASHIRE.

Colne.—Jubilee Cottage Hospital: proposed extension.

Moorside.—Council school, for the Swinton and Pendlebury Education Committee.

Orrell.—Ten houses, Park Road, for the Orrell Building Company.

St. Anne's-on-the-Sea.—Café, etc. Mr. F. Harrison, architect, 30 Willow Street, Accrington.

Widnes.—Picture theatre. Messrs. F. E. and C. H. Barlow, architects, Ditton Road Chambers.

LINCOLNSHIRE.

Spalding.—Six cottages. Messrs. Davis & Crowley, architects, 6 Double Street.

Working-class houses.

MIDDLESEX.

Hendon.—Church, Colindale (£6,500).

MONMOUTHSHIRE.

Aberbeeg.—Proposed municipal hospital, for Abertillery D. C. Council surveyor.

NORFOLK

King's Lynn.—Two cottages, Wisbech Road, for G.E.R. Co.

Six houses, Gaywood Road, for Mr. H. W. Barnes.

Wells.—Working-class dwellings.

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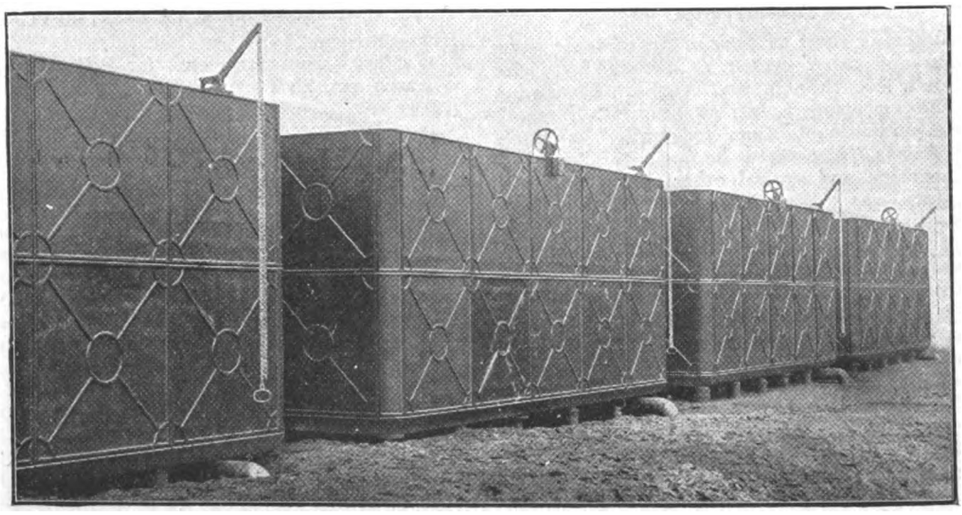
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ENGLAND—*continued.*

NOTTINGHAMSHIRE.

West Bridgeford.—Picture palace. Mr. C. B. Sherwin, architect, 32 St. Peter's Street, Derby

SOMERSET.

Yeovil.—Central junior Council school.

STAFFORDSHIRE.

Lichfield.—Twenty Council houses (£4,100).

Stafford.—Children's Homes, Stone Road.

Twelve cottages, Co-operative Street, Messrs. Morgan & Sons, builders.

Two houses and shops, Weston Road. Mr. H. W. Chatfield, builder, 1 Bridge Street.

Tuberculosis dispensary, Mill Bank, for Staffordshire, Wolverhampton, and Dudley Joint Committee.

Works, Foregate Street: extension, for Messrs. W. H. Dorman & Co., Ltd.

Stoke-on-Trent.—Wesleyan Mission Hall, Hill Street (£13,000). Mr. R. T. Longden, architect, St. Edward Street, Leek.

Stone.—Co-operative stores. Mr. G. Millar, architect.

SURREY.

Barnes.—Two houses, Bracken Gardens, for Messrs. E. Evans & Sons.

Four houses, Observatory Road, for Mr. G. A. Gale.

SUSSEX.

Haywards Heath.—Congregational church (£2,000).

Horsham.—Proposed isolation hospital.

Withyham.—Public elementary school for 240 places.

WARWICKSHIRE.

Coventry.—Council school (for 1,000 places), Humber Road, Stoke (£15,000).

Pavilion, Spencer Park (£1,100).

WESTMORLAND.

Kirkby Lonsdale.—Grammar School: addition.

YORKSHIRE.

Barnsley.—Council school, Agnes Road: extension (£3,500).

Carcroft.—Presbyterian church hall (for 300 sittings).

Elland.—All Saints' Church: completion.

Greetland.—St. Thomas's Church. Separate trade contractors.

Leeds.—Council school, York Road. Mr. F. Broadbent, architect, Education Committee's Offices.

Middlesbrough.—Proposed technical college, Borough Road North (£40,000 to £45,000).

Thurnscoe.—Council offices and public library.

Wetherby.—Picture theatre. Mr. E. V. Wimpenny, architect, 38 Boar Lane, Leeds.

WALES.

Wrexham.—Council School, Rhosddu: remodelling and additions. Mr. W. D. Wiles, County architect, 42A High Street.

SCOTLAND.

Ayr.—Working-class houses. Burgh surveyor.

Baillieston.—Police station.

Brechin.—Slaughter-house: addition. Burgh surveyor.

Clydebank.—Workmen's dwellings, Kilbowie Road.

Dundee.—King's Cross Hospital: tuberculosis extension.

Board School, Bellfield Street.

Workshop, Step Row, for Messrs. J. Ireland & Sons.

Edinburgh.—Church of St. John the Evangelist: addition.

Glasgow.—Fire station and three tenements of houses, Wallace Street, Tradeston, for the Corporation; also Recreation rooms, Eastern police buildings, Tobago Street, Calton.

Machine shop, Old Edinburgh Road, for Messrs. W. Beardmore & Co., Ltd.; also

Electricians' shop, Parkhead Works: extension; also Power-house, Rigby Street: extension.

Works, Caxton Street, Anniesland: reconstruction and additions, for Messrs. Barr & Stroud, Ltd.

Trongate: reconstruction (£28,000). Messrs. Honeyman & Keppie, F.R.I.B.A., architects, 257 West George Street.

Irvine.—Hosiery factory, Greenbank (£2,000), for Messrs. A. Cunningham, Ltd. (of Stewarton).

IRELAND.

Cork.—The North Infirmary: radiographic department. Messrs. A. & H. H. Hill, architects, 22 Georges Street.

Kilkenny.—Public Hall. Mr. T. A. Mandeville, architect, Haddington Road, Dublin. Messrs. Thompson, Ltd., contractors, Philipsburg Avenue, Fairview.

Omagh.—Sanatorium (£7,200) and medical residence (£1,350).

PATENT SPECIFICATIONS PUBLISHED DECEMBER 17, 1914.

Selected by James D. Roots, M.I.Mech.E., Thanet House, Temple Bar, London.

No. 23,180. Oct. 14, 1913.—R. L. Cooley, 211 17th Street, Milwaukee, Wisconsin, U.S.A. Vacuum cleaners.

24,125. Oct. 24, 1913.—British Patent Surbrite Company, Ltd., and E. G. Meadway, 40 Trinity Square, London, E.C. Paint.

25,132. Nov. 4, 1913.—Miss Erika Morf, 82 Hardturmstrasse, Zurich. Process of and apparatus for applying coatings or deposits of fusible substances to surfaces.

26,331. Nov. 17, 1913.—E. F. Stimson, 88 Streathbourne Road, Upper Tooting. Gas-heated hot-water circulators.

26,835. Nov. 21, 1913.—C. E. Hearson, 5 Templar Street, Camberwell. Electrically heated cooking and sterilising apparatus.

27,135. Nov. 25, 1913.—A. E. Bradshaw, Bolebroke, Cooden, Little Common, Bexhill-on-Sea. Utilisation of waste wood and the like.

27,141. Nov. 25, 1913.—Dated under International Convention March 21, 1913. J. A. McLarty, 83 Dunvegan Road, Toronto, Canada. Process of treating metals for the purpose of rendering them proof against oxidation, rusting, or the like.

27,331. Nov. 27, 1913.—J. I. Robin, 111-113 Great Tichfield Street, W. Incandescent gas fittings.

28,498. Dec. 10, 1913.—Messrs. Holophane, Ltd., and Ernest Stroud, 12 Carteret Street, Westminster. Fittings for lamp globes, shades, and the like.

28,617. Dec. 11, 1913.—Maxim Kogan, Finsbury Pavement House, E.C. Couplings for pipes or tubes.

386 of 1914, dated Nov. 21, 1913.—J. G. Inshaw, The Grange, Uddington, Lockwood House, Gartcosh, Lanark. Fountains.

898. Jan. 13, 1914.—William Bell, 88 Norman Road, Greenwich, S.E. Ventilating shaft tops.

6,387. March 13, 1914.—E. W. Buckley, M.I.M.E., Rose Hill, Newton Heath, Manchester. Fire-sprinkler device.

9,174. April 11, 1914.—H. J. Yates, Essex Works, Thimble Mill Lane, Aston, Birmingham, Gas fires.

11,110. May 5, 1914.—G. S. Mumford, 1,328 Broadway, New York, U.S.A. Method of and apparatus for making concrete walls.

11,952. May 14, 1914.—William Schonfield, 8 Goring Street, St. Mary Axe, E.C. Apparatus for opening and closing fanlights, casement windows, and the like.

15,319. June 26, 1914.—Edward Wooley, Canal Foundry, Church, Lancaster. Ashes-bin and ashes-pit doors and frames (for domestic refuse).

4,504. Feb. 21, 1914.—C. L. Leather, Corporation House, Lower Mortlake Road, Richmond, Surrey. Street gully grates.

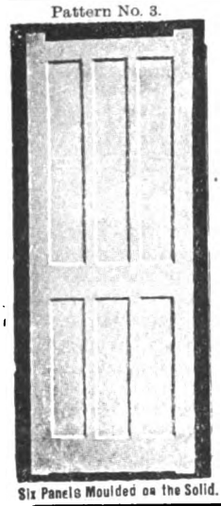
4,845. Feb. 25, 1914.—J. D. Prior, Empire Works, 197 Holliday Street, Birmingham. Domestic firegrates.

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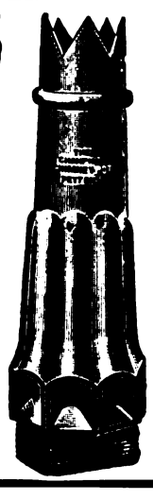
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